UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
5 Post Office Square, Suite 100
Boston, MA 02109-3912

DATE: **See E-Signature Block Below**

SUBJ: Pike Hill Copper Mine, Vermont Department of Environmental Conservation benthic invertebrate and fish community assessments

FROM: Edward Hathaway, Remedial Project Manager
ME/VT/CT Superfund Section

EDWARD HATHAWAY Digitally signed by EDWARD HATHAWAY Date: 2022.05.13 14:23:18 -04'00'

TO: Site File

Benthic invertebrate community and fish community assessments have been performed by VTDEC for Pike Hill Brook, Cookville Brook, Waits River, and several tributaries to Pike Hill Brook and Cookville Brook. This data is posted on the VTDEC Biomonitoring and Aquatic Studies (BASS) website at: https://dec.vermont.gov/watershed/map/monitor/biomonitoring. To include the data that has been posted to the website through May 13, 2022 in the administrative record, the following PDF documents are attached to this memo.

- PDF with the VTDEC BASS program data for Pike Hill Brook and its tributaries.
- PDF with the VTDEC BASS program data for Cookville Brook and its tributaries.
- PDF with the VTDEC BASS program data for the Waits River.

						Conductivity	Dissolved Chloride	Dissolved Phosphorus	pH	Temperature	Total Nitrogen	Total Phosphorus
Visit Date	**Start Time**	**Location Name**	**Project ID**	**Collection Method**	**Depth (m)**	**umho/cm**	**mg/l**	**ug/l**	**None**	**deg C**	**mg/l**	**ug/l**
9/10/2007	0900	Cookville Brook	Biomon	BottleGrab	0.2	239	2.43	5			0.21	6.42
9/10/2007	0900	Cookville Brook	Biomon	Thermister	0.2					14.5		
9/10/2007	0900	Cookville Brook	Biomon	Meter	0.2				8.39			

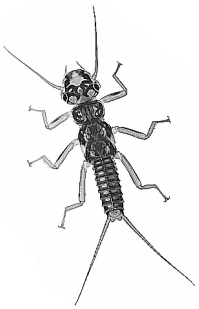
Monitoring Site Summary - River/Stream

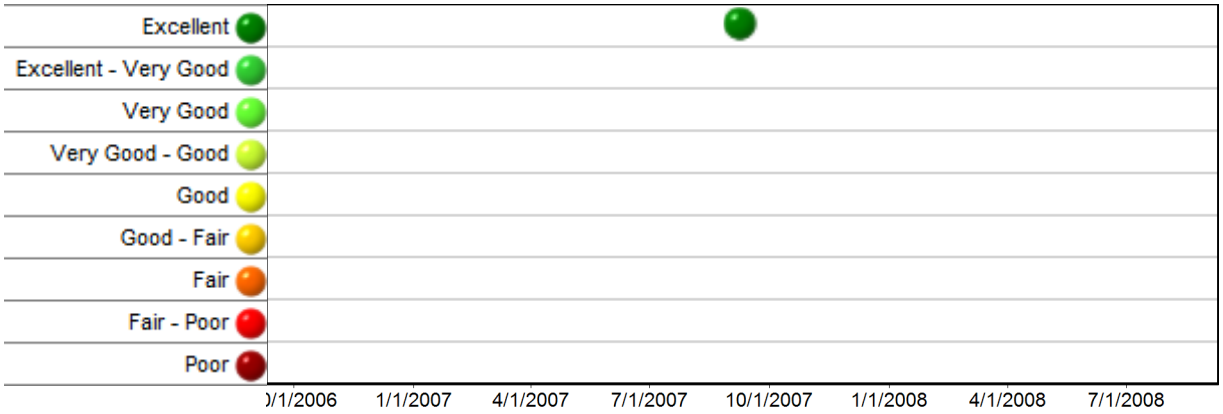
Cookville Brook

River Mile: 1.5
Located below Center Rd 500m.
Corinth, VT (44.02441, -72.28274)

Macroinvertebrate Assessment

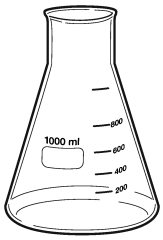
Macroinvertebrate population Assessments are a measure of the biological integrity of the macroinvertebrate community and an indicator of the health of the aquatic biota. (For More Details)





Water Quality Measurements

Chemical and physical parameters provide a "snapshot" of current conditions and are used to detect changes in water quality and to make determinations about a waterbody and its watershed. (For More Details)



Characteristic	Description	Trend	Max	Mean	Min
Conductivity (umho/cm)			239.0	239.0	239.0
Nitrogen (mg/L)	Nutrient that may fuel algae blooms		0.2	0.2	0.2
pH	Acidity		8.4	8.4	8.4
Phosphorus (ug/L)	Nutrient that may fuel algae blooms		6.4	6.4	6.4
Turbidity (NTU)	Measure of suspended sediment		0.7	0.7	0.7

Habitat Observations

Observations on the physical condition of the waterbody can be useful in determining the habitat type present and if watershed stressors have degraded its ability to support a healthy community of aquatic biota. (For More Details)

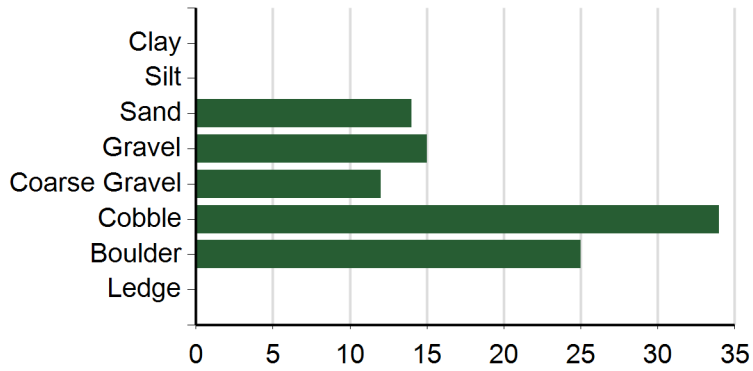
Observation Date: 9/10/2007

Habitat Type: Riffle

Embeddedness Estimated %: 62.5

Canopy %: 70

Substrate Composition %



						Conductivity	Dissolved Chloride	Dissolved Oxygen	Dissolved Oxygen Saturation	Dissolved Phosphorus	pH	Temperature
Visit Date	**Start Time**	**Location Name**	**Project ID**	**Collection Method**	**Depth (m)**	**umho/cm**	**mg/l**	**mg/l**	**%**	**ug/l**	**None**	**deg C**
9/10/2007	0900	Cookville Brook	Biomon	BottleGrab	0.2	198	< 2			5		
9/10/2007	0900	Cookville Brook	Biomon	Thermister	0.2							14
9/10/2007	0900	Cookville Brook	Biomon	Meter	0.2						8.19	
9/11/2017	1006	Cookville Brook	BioMon	BottleGrab	0.2							
9/11/2017	1006	Cookville Brook	BioMon	Hydrolab	0.2	229.2		7.46	73.1		7.64	11.99

Total Chloride	Total Nitrogen	Total Phosphorus	Turbidity
mg/l	mg/l	ug/l	NTU
	0.19	5.31	0.9
< 2	0.21	8.15	H 0.99

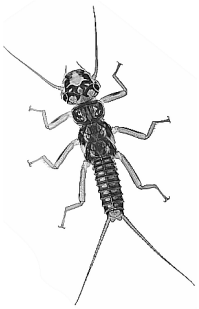
Monitoring Site Summary - River/Stream

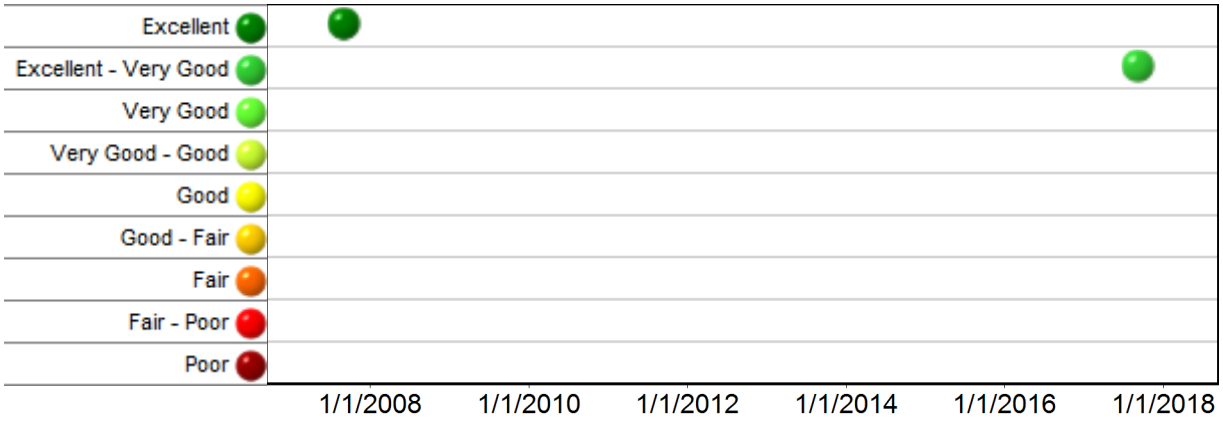
Cookville Brook

River Mile: 8.1
Sampled adjacent to Cookville Rd. About 200 m below town line.
Corinth, VT (44.04494, -72.36245)

Macroinvertebrate Assessment

Macroinvertebrate population Assessments are a measure of the biological integrity of the macroinvertebrate community and an indicator of the health of the aquatic biota. (For More Details)





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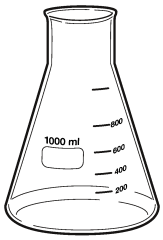

Characteristic	Description	Trend	Max	Mean	Min
Chloride (mg/L)	At elevated values mostly from deicing		2.0	2.0	2.0
Conductivity (umho/cm)			229.2	213.6	198.0
Nitrogen (mg/L)	Nutrient that may fuel algae blooms		0.2	0.2	0.2
pH	Acidity		8.2	7.9	7.6
Phosphorus (ug/L)	Nutrient that may fuel algae blooms		8.2	6.7	5.3
Turbidity (NTU)	Measure of suspended sediment		1.0	0.9	0.9

Habitat Observations

Observation Date: 9/11/2017

Habitat Type: Meandering
Low Gradient

Canopy %: 40

VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION

Macroinvertebrate Site Summary - River/Stream

Cookville Brook

Located immediately below culvert on Center Road, above wetland area.
Corinth, VT (44.04561, -72.36558)
Stream Type: Small High Gradient

Macroinvertebrate Community Metrics

Macroinvertebrate Community Assessments are based primarily on eight metrics of the Macroinvertebrate community. These include metrics of abundance, species richness, and indexes of Sensitive to tolerant species ratios. (For More Details)

Date	Density	Richness	EPT Richness	PMA-O	B.I.	Oligo.	EPT/EPT + Chiro	PPCS-F	Community Assessment
9/10/2007	768	52.0	30.0	68.3	2.45	1.82	0.89	0.48	Excellent - Very Good
9/11/2017	752	47.0	29.0	78.4	3.82	0.27	0.94	0.51	Good
Scoring Guideline for a SHG Stream of Water Quality Class B(2)									
	≥ 300	≥ 27	≥ 16	≥ 45	≤ 4.5	≤ 12	≥ 0.45	≥ 0.4	**Full Support**
	≥ 250	≥ 26	≥ 15	≥ 40	≤ 4.65	≤ 14.5	≥ 0.43	≥ 0.35	**Indeterminate**
	< 250	< 26	< 15	< 40	> 4.65	> 14.5	< 0.43	< 0.35	**Non-Support**

						Conductivity	Dissolved Oxygen	Dissolved Oxygen Saturation	pH	Temperature	Total Chloride	Total Nitrogen
Visit Date	**Start Time**	**Location Name**	**Project ID**	**Collection Method**	**Depth (m)**	**umho/cm**	**mg/l**	**%**	**None**	**deg C**	**mg/l**	**mg/l**
9/11/2017	0917	Cookville Brook	BioMon	BottleGrab	0.2						< 2	0.11
9/11/2017	0917	Cookville Brook	BioMon	Hydrolab	0.2	227	9.87	93.8	8.09	10.86		

Total Phosphorus	Turbidity
ug/l	NTU
5.42	H 0.89

Monitoring Site Summary - River/Stream

Cookville Brook

River Mile: 8.2

Located immediately below culvert on Center Road, above wetland area.

Corinth, VT (44.04561, -72.36558)

Macroinvertebrate Assessment

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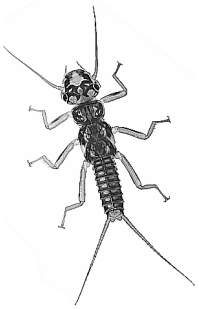

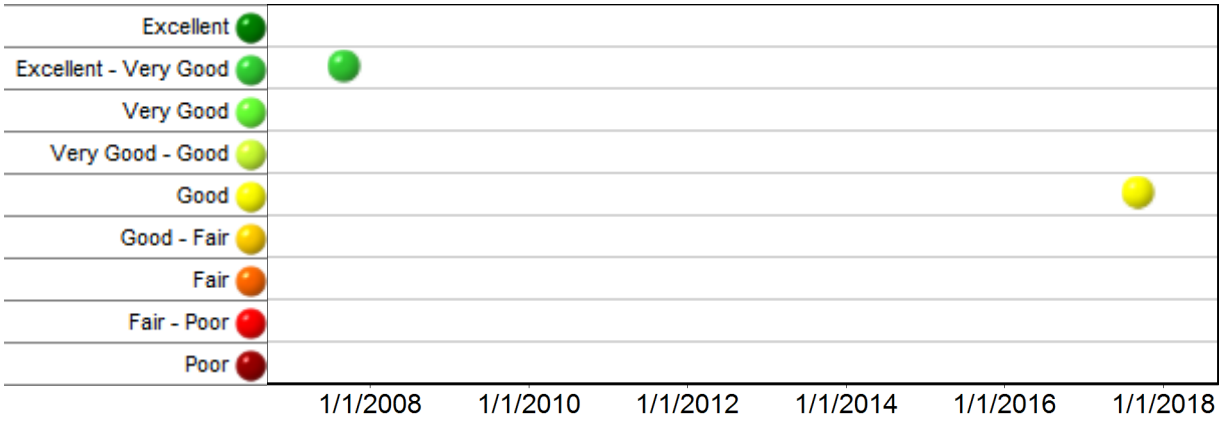

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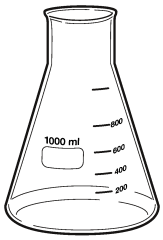


Characteristic	Description	Trend	Max	Mean	Min
Chloride (mg/L)	At elevated values mostly from deicing	●	2.0	2.0	2.0
Conductivity (umho/cm)		●	227.0	227.0	227.0
Nitrogen (mg/L)	Nutrient that may fuel algae blooms	●	0.1	0.1	0.1
pH	Acidity	●	8.1	8.1	8.1
Phosphorus (ug/L)	Nutrient that may fuel algae blooms	●	5.4	5.4	5.4
Turbidity (NTU)	Measure of suspended sediment	●	0.9	0.9	0.9

Habitat Observations

Observations on the physical condition of the waterbody can be useful in determining the habitat type present and if watershed stressors have degraded its ability to support a healthy community of aquatic biota. (For More Details)

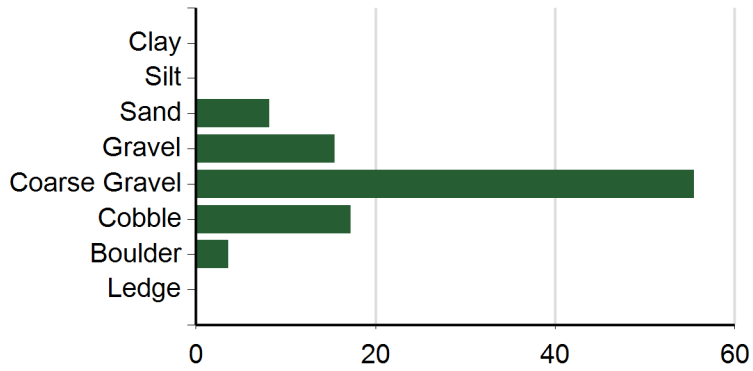
Observation Date: 9/11/2017

Habitat Type: Riffle

Embeddedness Estimated %: 15

Canopy %: 65

Substrate Composition %



VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION

Macroinvertebrate Site Summary - River/Stream

Cookville Brook Trib # 4

At downstream end of fisrt wetland area from mouth - off road. Note USGS sampled Depositional and Riffle at this site. USGS 10c

Corinth, VT (44.03500, -72.30000)

Stream Type: Small High Gradient

Macroinvertebrate Community Metrics

Macroinvertebrate Community Assessments are based primarily on eight metrics of the Macroinvertebrate community. These include metrics of abundance, species richness, and indexes of Sensitive to tolerant species ratios. (For More Details)

Date	Density	Richness	EPT Richness	PMA-O	B.I.	Oligo.	EPT/EPT + Chiro	PPCS-F	Community Assessment
9/10/2007	1404	38.0	21.0	76.1	3.23	1.71	0.58	0.55	Excellent - Very Good
Scoring Guideline for a SHG Stream of Water Quality Class B(2)									
	≥ 300	≥ 27	≥ 16	≥ 45	≤ 4.5	≤ 12	≥ 0.45	≥ 0.4	**Full Support**
	≥ 250	≥ 26	≥ 15	≥ 40	≤ 4.65	≤ 14.5	≥ 0.43	≥ 0.35	**Indeterminate**
	< 250	< 26	< 15	< 40	> 4.65	> 14.5	< 0.43	< 0.35	**Non-Support**

Monitoring Site Summary - River/Stream

Cookville Brook Trib # 4

River Mile: 0.1

At downstream end of fisrt wetland area from mouth - off road. Note USGS sampled Depositional and Riffle at this site. USGS 10c

Corinth, VT (44.03500, -72.30000)

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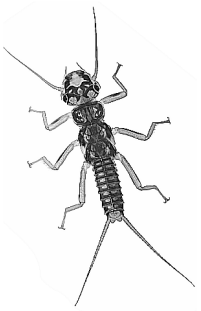

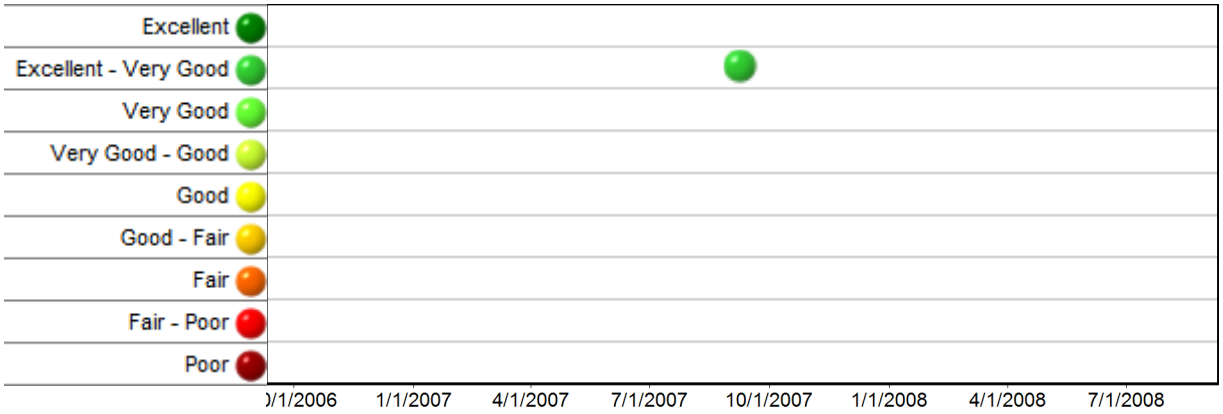

Habitat Observations

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Observation Date: 9/10/2007

Habitat Type: Riffle

Embeddedness Estimated %: 15

Canopy %: 100

						Conductivity	Temperature
Visit Date	Start Time	Location Name	Project ID	Collection Method	Depth (m)	umho/cm	deg C
8/29/2005	1300	Cookville Brook Trib 4	Biomon	Thermister	0.2		12
8/29/2005	1300	Cookville Brook Trib 4	Biomon	BottleGrab	0.2	256	

Monitoring Site Summary - River/Stream

Cookville Brook Trib 4

River Mile: 0.9

Located below log road crossing above beaver pond wetland.

Corinth, VT (44.04583, -72.29833)

Macroinvertebrate Assessment

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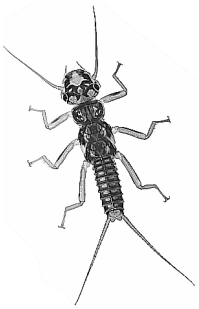

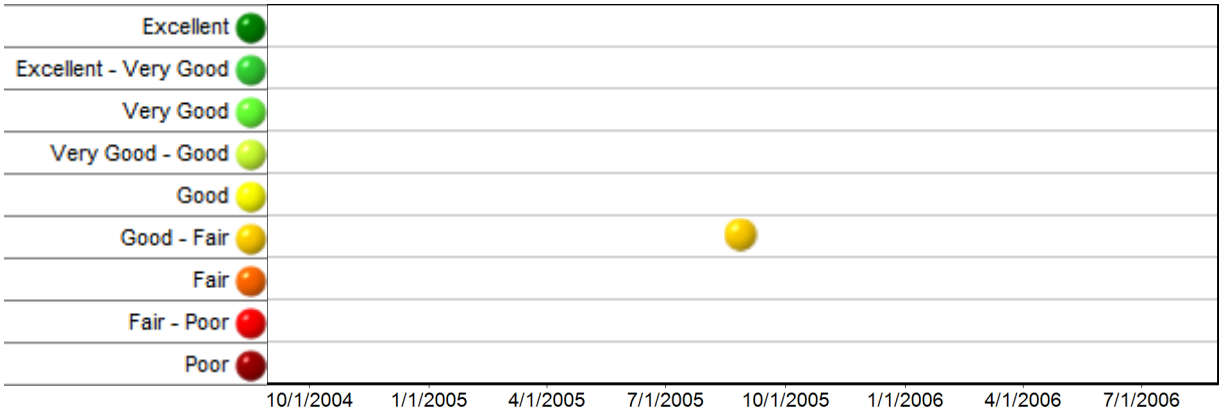

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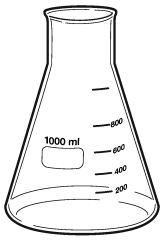

Characteristic	Description	Trend	Max	Mean	Min
Conductivity (umho/cm)		●	256.0	256.0	256.0

VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION

Macroinvertebrate Site Summary - River/Stream

Cookville Brook Trib # 4

Below geologic Breakout from Copper mine.
Corinth, VT (44.05309, -72.30262)
Stream Type: Small High Gradient

Macroinvertebrate Community Metrics

Macroinvertebrate Community Assessments are based primarily on eight metrics of the Macroinvertebrate community. These include metrics of abundance, species richness, and indexes of Sensitive to tolerant species ratios. (For More Details)

Date	Density	Richness	EPT Richness	PMA-O	B.I.	Oligo.	EPT/EPT + Chiro	PPCS-F	Community Assessment
9/10/2007	30	15.0	3.0	43.3	4.36	10.00	0.42	0.56	Poor
9/11/2017	39	9.0	2.0	24.6	4.19	0.00	0.67	0.20	Poor
Scoring Guideline for a SHG Stream of Water Quality Class B(2)									
	≥ 300	≥ 27	≥ 16	≥ 45	≤ 4.5	≤ 12	≥ 0.45	≥ 0.4	**Full Support**
	≥ 250	≥ 26	≥ 15	≥ 40	≤ 4.65	≤ 14.5	≥ 0.43	≥ 0.35	**Indeterminate**
	< 250	< 26	< 15	< 40	> 4.65	> 14.5	< 0.43	< 0.35	**Non-Support**

						Conductivity	Dissolved Oxygen	Dissolved Oxygen Saturation	pH	Temperature	Total Chloride	Total Nitrogen
Visit Date	Start Time	Location Name	Project ID	Collection Method	Depth (m)	umho/cm	mg/l	%	None	deg C	mg/l	mg/l
9/11/2017	1237	Cookville Brook Trib # 4	BioMon	BottleGrab	0.2						< 2	< 0.1
9/11/2017	1237	Cookville Brook Trib # 4	BioMon	Hydrolab	0.2	243.7	9.07	89.4	7.88	12.18		

Total Phosphorus	Turbidity
ug/l	NTU
9.48	H 1.47

Monitoring Site Summary - River/Stream

Cookville Brook Trib # 4

River Mile: 1.7
Below geologic Breakout from Copper mine.
Corinth, VT (44.05309, -72.30262)

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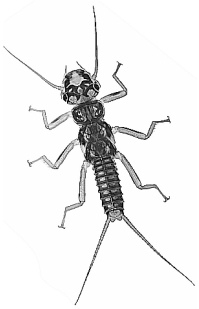

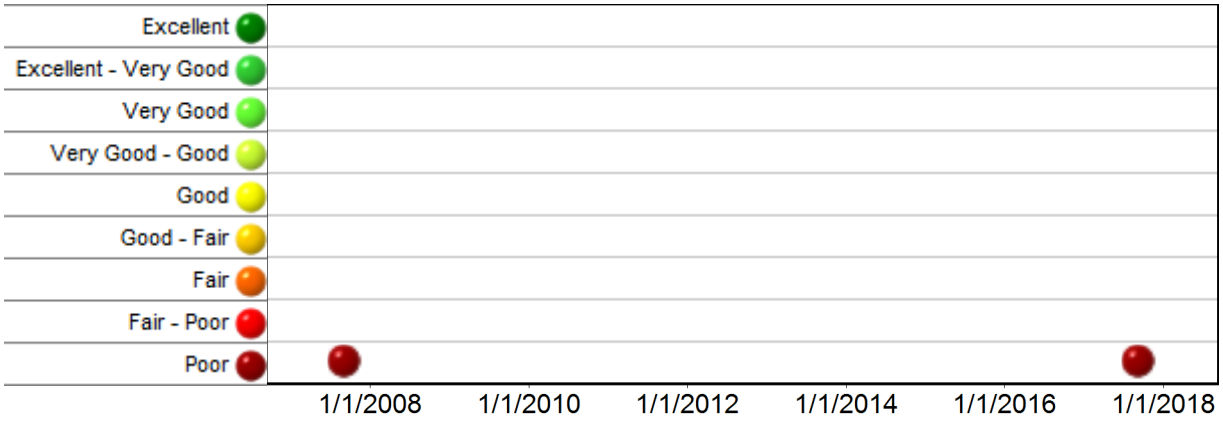

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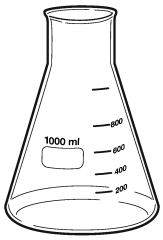


Characteristic	Description	Trend	Max	Mean	Min
Chloride (mg/L)	At elevated values mostly from deicing		2.0	2.0	2.0
Conductivity (umho/cm)			243.7	243.7	243.7
Nitrogen (mg/L)	Nutrient that may fuel algae blooms		0.1	0.1	0.1
pH	Acidity		7.9	7.9	7.9
Phosphorus (ug/L)	Nutrient that may fuel algae blooms		9.5	9.5	9.5
Turbidity (NTU)	Measure of suspended sediment		1.5	1.5	1.5

Habitat Observations

Observations on the physical condition of the waterbody can be useful in determining the habitat type present and if watershed stressors have degraded its ability to support a healthy community of aquatic biota. (For More Details)

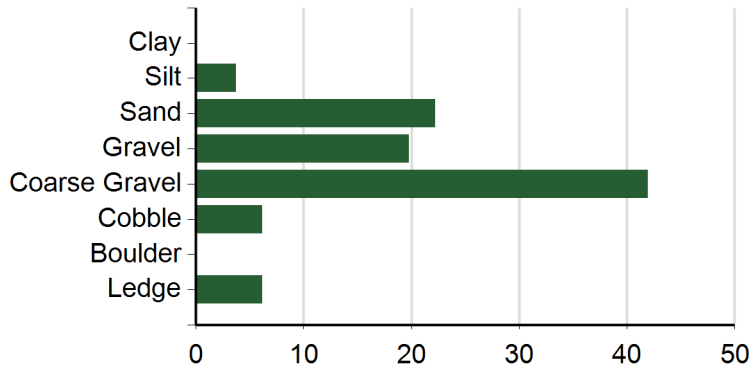
Observation Date: 9/11/2017

Habitat Type: Run

Embeddedness Estimated %: 5

Canopy %: 95

Substrate Composition %



Macroinvertebrate Site Summary - River/Stream

Cookville Brook Trib # 4

Located above geologic breakout form copper mine USGS Site 10A
Corinth, VT (44.05492, -72.30323)
Stream Type: Small High Gradient

Macroinvertebrate Community Metrics

Macroinvertebrate Community Assessments are based primarily on eight metrics of the Macroinvertebrate community. These include metrics of abundance, species richness, and indexes of Sensitive to tolerant species ratios. (For More Details)

Date	Density	Richness	EPT Richness	PMA-O	B.I.	Oligo.	EPT/EPT + Chiro	PPCS-F	Community Assessment
9/10/2007	785	44.0	14.0	71.1	3.05	1.53	0.62	0.54	Good
Scoring Guideline for a SHG Stream of Water Quality Class B(2)									
	≥ 300	≥ 27	≥ 16	≥ 45	≤ 4.5	≤ 12	≥ 0.45	≥ 0.4	**Full Support**
	≥ 250	≥ 26	≥ 15	≥ 40	≤ 4.65	≤ 14.5	≥ 0.43	≥ 0.35	**Indeterminate**
	< 250	< 26	< 15	< 40	> 4.65	> 14.5	< 0.43	< 0.35	**Non-Support**

						Conductivity	Dissolved Chloride	Dissolved Phosphorus	Total Chloride	Total Nitrogen	Total Phosphorus	Turbidity
Visit Date	**Start Time**	**Location Name**	**Project ID**	**Collection Method**	**Depth (m)**	**umho/cm**	**mg/l**	**ug/l**	**mg/l**	**mg/l**	**ug/l**	**NTU**
6/30/2010	0915	Cookville Brook Wetland	Wetlands	BottleGrab	0.2	186.6		5.56	0.36	0.105	9.89	1.81
6/21/2017	1010	Cookville Brook Wetland	Wetlands	BottleGrab	0.2	159.7	0.52	9.3	< 2	< 0.1	9.86	H 1.71

Turbidity
NTU
0.66

VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION

Macroinvertebrate Site Summary - River/Stream

Pike Hill Brook

Located just above confluence with Waits River 50m, below Rt 25.
Corinth, VT (44.06222, -72.23583)
Stream Type: Small High Gradient

Macroinvertebrate Community Metrics

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Date	Density	Richness	EPT Richness	PMA-O	B.I.	Oligo.	EPT/EPT + Chiro	PPCS-F	Community Assessment
8/29/2005	814	47.0	16.0	46.8	3.97	2.36	0.30	0.42	Fair
Scoring Guideline for a SHG Stream of Water Quality Class B(2)									
	≥ 300	≥ 27	≥ 16	≥ 45	≤ 4.5	≤ 12	≥ 0.45	≥ 0.4	**Full Support**
	≥ 250	≥ 26	≥ 15	≥ 40	≤ 4.65	≤ 14.5	≥ 0.43	≥ 0.35	**Indeterminate**
	< 250	< 26	< 15	< 40	> 4.65	> 14.5	< 0.43	< 0.35	**Non-Support**

VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION

Monitoring Site Summary - River/Stream

Pike Hill Brook

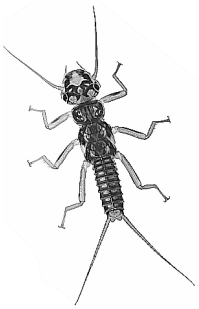
River Mile: 0.1

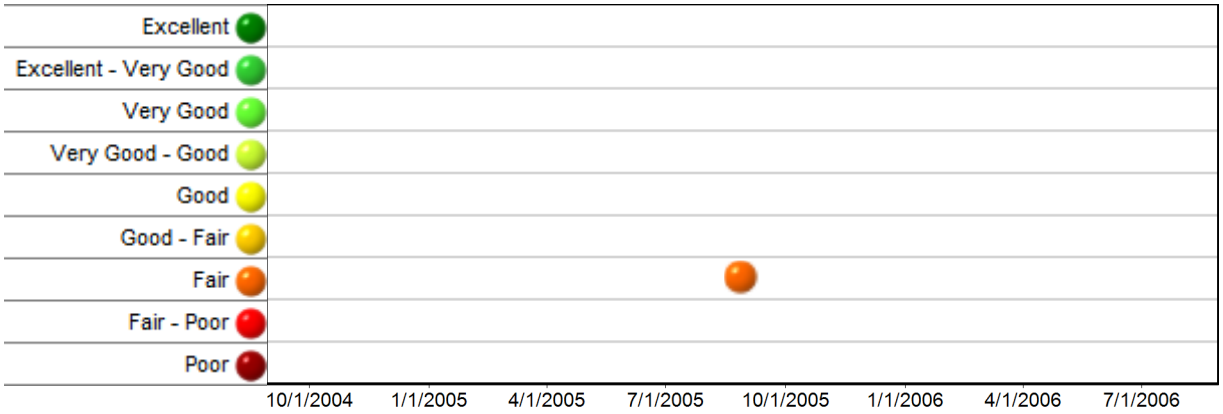
Located just above confluence with Waits River 50m, below Rt 25.

Corinth, VT (44.06222, -72.23583)

Macroinvertebrate Assessment

Macroinvertebrate population Assessments are a measure of the biological integrity of the macroinvertebrate community and an indicator of the health of the aquatic biota. (For More Details)





Macroinvertebrate Site Summary - River/Stream

Pike Hill Brook

Located above Route 302 bridge about 1/3mi.
Corinth, VT (44.06024, -72.23847)
Stream Type: Small High Gradient

Macroinvertebrate Community Metrics

Macroinvertebrate Community Assessments are based primarily on eight metrics of the Macroinvertebrate community. These include metrics of abundance, species richness, and indexes of Sensitive to tolerant species ratios. (For More Details)

Date	Density	Richness	EPT Richness	PMA-O	B.I.	Oligo.	EPT/EPT + Chiro	PPCS-F	Community Assessment
9/5/2002	142	20.5	10.5	70.2	2.65	0.00	0.81	0.41	Poor
Scoring Guideline for a SHG Stream of Water Quality Class B(2)									
	≥ 300	≥ 27	≥ 16	≥ 45	≤ 4.5	≤ 12	≥ 0.45	≥ 0.4	**Full Support**
	≥ 250	≥ 26	≥ 15	≥ 40	≤ 4.65	≤ 14.5	≥ 0.43	≥ 0.35	**Indeterminate**
	< 250	< 26	< 15	< 40	> 4.65	> 14.5	< 0.43	< 0.35	**Non-Support**

						Conductivity	pH	Temperature
Visit Date	**Start Time**	**Location Name**	**Project ID**	**Collection Method**	**Depth (m)**	**umho/cm**	**None**	**deg C**
9/5/2002	0950	Pike Hill Brook	Biomon	BottleGrab	0.2		8.07	
9/5/2002	0950	Pike Hill Brook	Biomon	Meter	0.2	288		
9/5/2002	0950	Pike Hill Brook	Biomon	Thermister	0.2			16

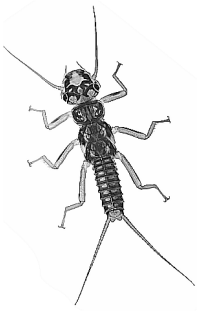
Monitoring Site Summary - River/Stream

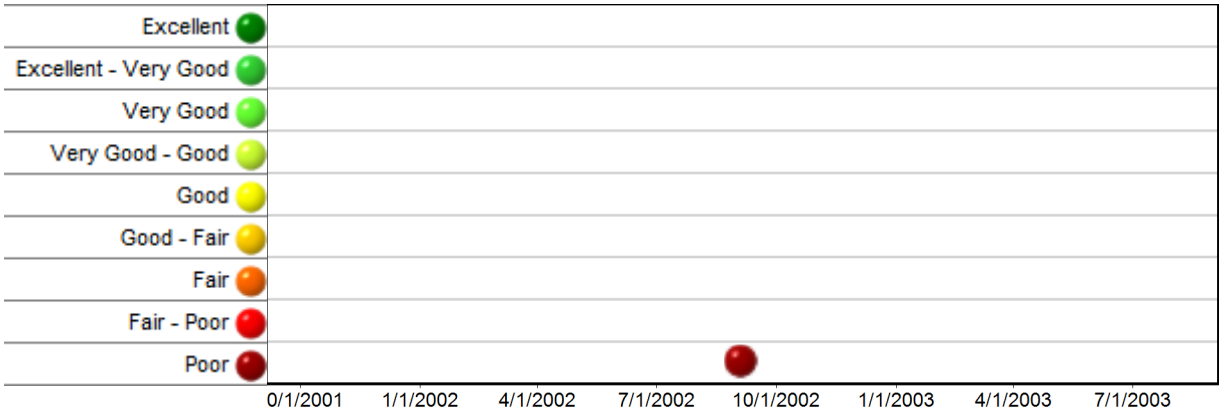
Pike Hill Brook

River Mile: 0.3
Located above Route 302 bridge about 1/3mi.
Corinth, VT (44.06024, -72.23847)

Macroinvertebrate Assessment

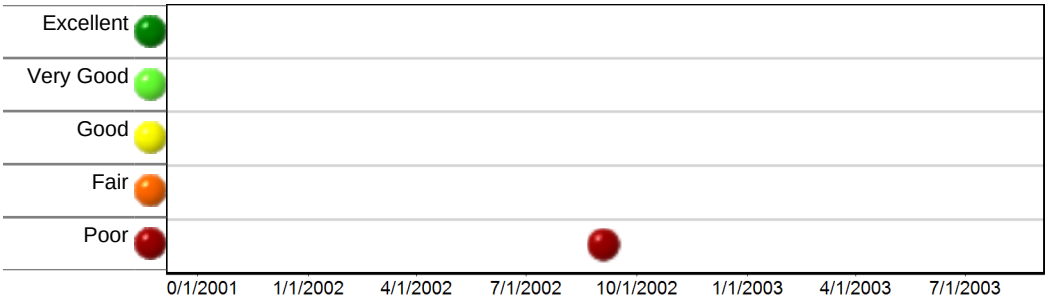
Macroinvertebrate population Assessments are a measure of the biological integrity of the macroinvertebrate community and an indicator of the health of the aquatic biota. (For More Details)

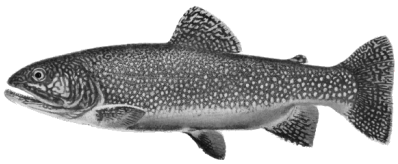




Fish Assessment

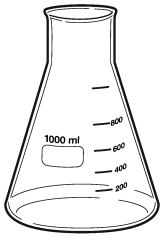
Fish populations provide a measurement of the general health of the aquatic biota. Since fish occupy the top of the food web their population integrates the conditions of lower community types. (For More Details)





Water Quality Measurements

Chemical and physical parameters provide a "snapshot" of current conditions and are used to detect changes in water quality and to make determinations about a waterbody and its watershed. (For More Details)



Characteristic	Description	Trend	Max	Mean	Min
Conductivity (umho/cm)			288.0	288.0	288.0
pH			8.1	8.1	8.1

Habitat Observations

Observations on the physical condition of the waterbody can be useful in determining the habitat type present and if watershed stressors have degraded its ability to support a healthy community of aquatic biota. (For More Details)

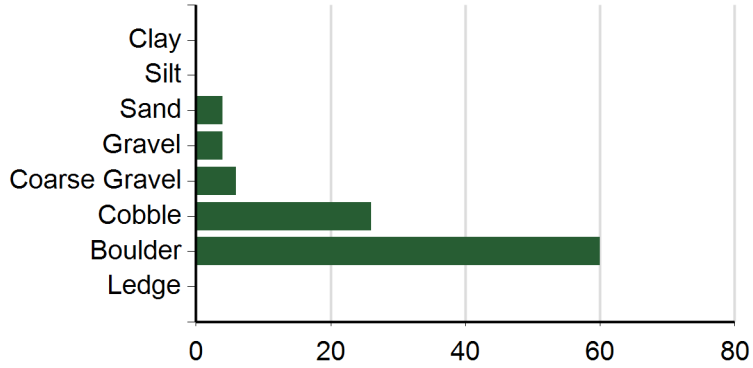
Observation Date: 9/5/2002

Habitat Type: Riffle

Embeddedness Estimated %: 15

Canopy %: 90

Substrate Composition %



VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION

Macroinvertebrate Site Summary - River/Stream

Pike Hill Brook

Located adjacent to Brook Road, just as road nears the stream up from Route 25.
Corinth, VT (44.05916, -72.24065)
Stream Type: Small High Gradient

Macroinvertebrate Community Metrics

Macroinvertebrate Community Assessments are based primarily on eight metrics of the Macroinvertebrate community. These include metrics of abundance, species richness, and indexes of Sensitive to tolerant species ratios. (For More Details)

Date	Density	Richness	EPT Richness	PMA-O	B.I.	Oligo.	EPT/EPT + Chiro	PPCS-F	Community Assessment
8/29/2005	103	28.0	12.0	62.2	3.49	0.00	0.44	0.45	Fair - Poor
9/10/2007	290	40.0	19.0	57.1	3.58	0.00	0.41	0.51	Fair
10/5/2017	429	40.0	22.0	57.4	2.10	0.00	0.97	0.31	Fair
Scoring Guideline for a SHG Stream of Water Quality Class B(2)									
	≥ 300	≥ 27	≥ 16	≥ 45	≤ 4.5	≤ 12	≥ 0.45	≥ 0.4	**Full Support**
	≥ 250	≥ 26	≥ 15	≥ 40	≤ 4.65	≤ 14.5	≥ 0.43	≥ 0.35	**Indeterminate**
	< 250	< 26	< 15	< 40	> 4.65	> 14.5	< 0.43	< 0.35	**Non-Support**

						Conductivity	Dissolved Chloride	Dissolved Oxygen	Dissolved Oxygen Saturation	Dissolved Phosphorus	pH	Temperature
Visit Date	**Start Time**	**Location Name**	**Project ID**	**Collection Method**	**Depth (m)**	**umho/cm**	**mg/l**	**mg/l**	**%**	**ug/l**	**None**	**deg C**
8/29/2005	0940	Pike Hill Brook	Biomon	BottleGrab	0.2	267				5.85	8.1	
8/29/2005	0940	Pike Hill Brook	Biomon	Thermister	0.2							18
9/10/2007	0900	Pike Hill Brook	Biomon	BottleGrab	0.2	232	9.57			5		
9/10/2007	0900	Pike Hill Brook	Biomon	Thermister	0.2							16
10/5/2017	1211	Pike Hill Brook	BioMon	Hydrolab	0.2	254.2		10	99.8		7.96	13.91
10/5/2017	1211	Pike Hill Brook	BioMon	BottleGrab	0.2							

Total Chloride	Total Nitrogen	Total Phosphorus	Turbidity
mg/l	mg/l	ug/l	NTU
14.9	0.26	14.4	
	0.17	8.77	1.93
			1.3
11.4	0.15	7.79	

Monitoring Site Summary - River/Stream

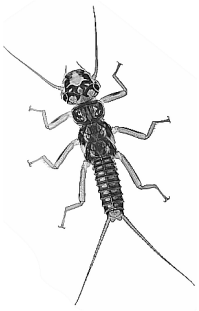
Pike Hill Brook

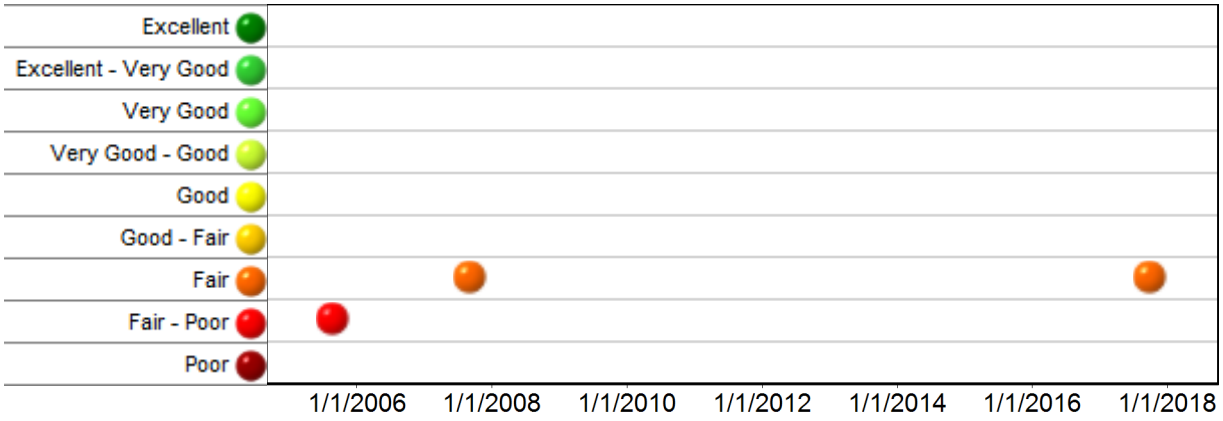
River Mile: 0.4

Located adjacent to Brook Road, just as road nears the stream up from Route 25.
Corinth, VT (44.05916, -72.24065)

Macroinvertebrate Assessment

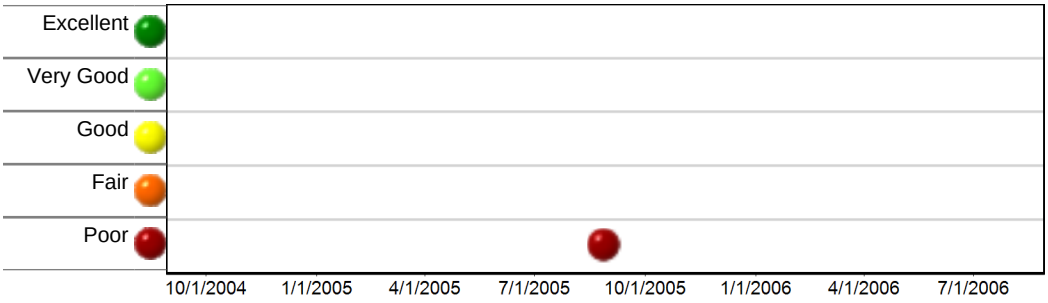
Macroinvertebrate population Assessments are a measure of the biological integrity of the macroinvertebrate community and an indicator of the health of the aquatic biota. (For More Details)

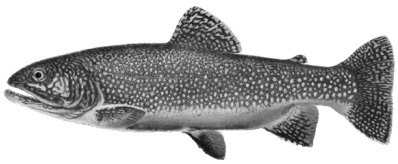




Fish Assessment

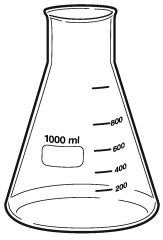
Fish populations provide a measurement of the general health of the aquatic biota. Since fish occupy the top of the food web their population integrates the conditions of lower community types. (For More Details)





Water Quality Measurements

Chemical and physical parameters provide a "snapshot" of current conditions and are used to detect changes in water quality and to make determinations about a waterbody and its watershed. (For More Details)



Characteristic	Description	Trend	Max	Mean	Min
Chloride (mg/L)	At elevated values mostly from deicing		14.9	13.1	11.4
Conductivity (umho/cm)			267.0	251.1	232.0
Nitrogen (mg/L)	Nutrient that may fuel algae blooms		0.3	0.2	0.2
pH	Acidity		8.1	8.0	8.0
Phosphorus (ug/L)	Nutrient that may fuel algae blooms		14.4	10.3	7.8
Turbidity (NTU)	Measure of suspended sediment		1.9	1.6	1.3

Habitat Observations

Observations on the physical condition of the waterbody can be useful in determining the habitat type present and if watershed stressors have degraded its ability to support a healthy community of aquatic biota. (For More Details)

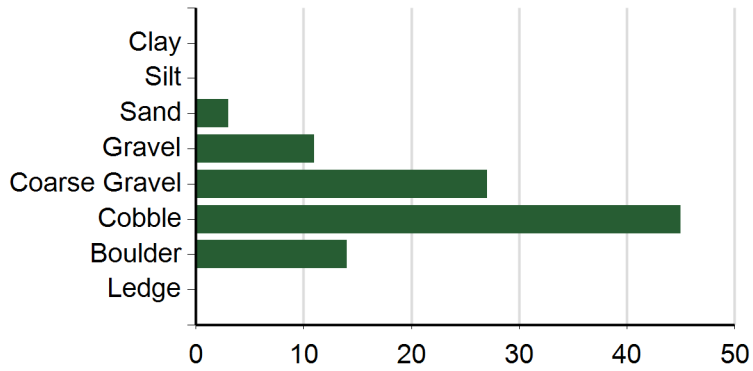
Observation Date: 10/5/2017

Habitat Type: Riffle

Embeddedness Estimated %: 30

Canopy %: 85

Substrate Composition %



VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION

Macroinvertebrate Site Summary - River/Stream

Pike Hill Brook

Located below Miller Road.
Corinth, VT (44.05583, -72.24556)
Stream Type: Small High Gradient

Macroinvertebrate Community Metrics

Macroinvertebrate Community Assessments are based primarily on eight metrics of the Macroinvertebrate community. These include metrics of abundance, species richness, and indexes of Sensitive to tolerant species ratios. (For More Details)

Date	Density	Richness	EPT Richness	PMA-O	B.I.	Oligo.	EPT/EPT + Chiro	PPCS-F	Community Assessment
8/29/2005	503	46.0	15.0	59.0	4.77	0.60	0.78	0.64	Good - Fair
9/10/2007	589	36.5	13.5	58.1	4.17	11.73	0.74	0.47	Fair
Scoring Guideline for a SHG Stream of Water Quality Class B(2)									
	≥ 300	≥ 27	≥ 16	≥ 45	≤ 4.5	≤ 12	≥ 0.45	≥ 0.4	**Full Support**
	≥ 250	≥ 26	≥ 15	≥ 40	≤ 4.65	≤ 14.5	≥ 0.43	≥ 0.35	**Indeterminate**
	< 250	< 26	< 15	< 40	> 4.65	> 14.5	< 0.43	< 0.35	**Non-Support**

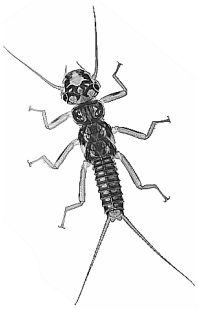
Monitoring Site Summary - River/Stream

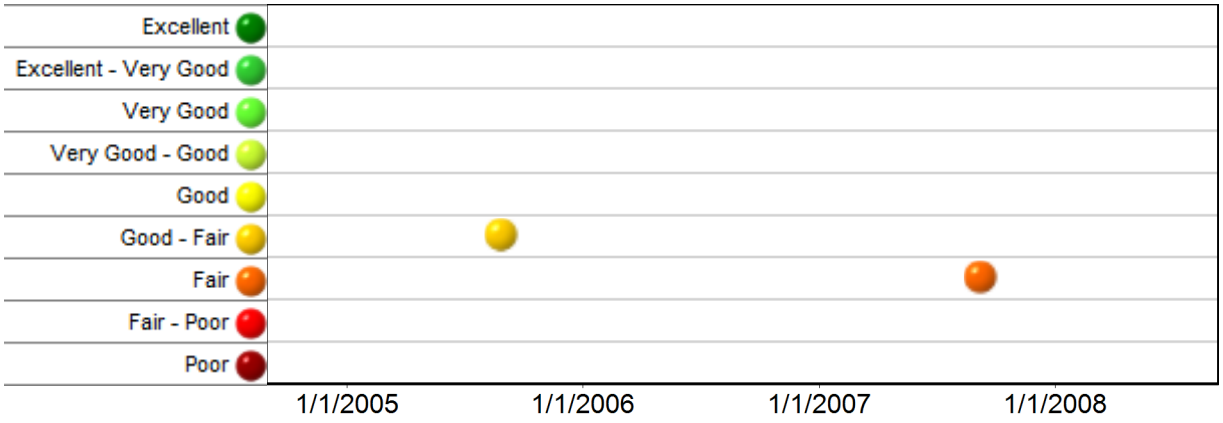
Pike Hill Brook

River Mile: 0.9
Located below Miller Road.
Corinth, VT (44.05583, -72.24556)

Macroinvertebrate Assessment

Macroinvertebrate population Assessments are a measure of the biological integrity of the macroinvertebrate community and an indicator of the health of the aquatic biota. (For More Details)





						Conductivity	Dissolved Oxygen	Dissolved Oxygen Saturation	pH	Temperature	Total Chloride	Total Nitrogen
Visit Date	**Start Time**	**Location Name**	**Project ID**	**Collection Method**	**Depth (m)**	**umho/cm**	**mg/l**	**%**	**None**	**deg C**	**mg/l**	**mg/l**
10/5/2017	1256	Pike Hill Brook	BioMon	BottleGrab	0.2						10.5	0.16
10/5/2017	1256	Pike Hill Brook	BioMon	Hydrolab	0.2	252.9	9.46	96.2	7.62	14.62		

Total Phosphorus	Turbidity
ug/l	NTU
8.42	
	1.6

Monitoring Site Summary - River/Stream

Pike Hill Brook

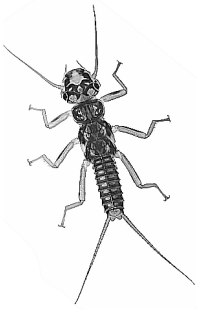
River Mile: 1.0

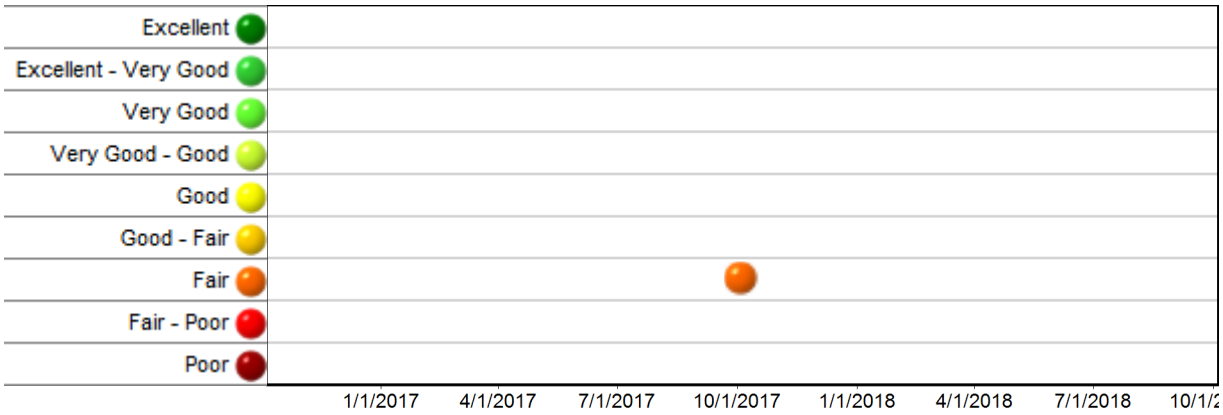
Parallel to Brook Rd, ~150m upstream from Miller Rd. Park alongside Brook Rd and bushwack to site. Sample upstream of soft/hard bottom transition area. In 2017 numerous blown out beaver dams.

Corinth, VT (44.05467, -72.24683)

Macroinvertebrate Assessment

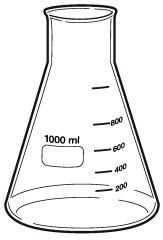
Macroinvertebrate population Assessments are a measure of the biological integrity of the macroinvertebrate community and an indicator of the health of the aquatic biota. (For More Details)





Water Quality Measurements

Chemical and physical parameters provide a "snapshot" of current conditions and are used to detect changes in water quality and to make determinations about a waterbody and its watershed. (For More Details)



Characteristic	Description	Trend	Max	Mean	Min
Chloride (mg/L)	At elevated values mostly from deicing	●	10.5	10.5	10.5
Conductivity (umho/cm)		●	252.9	252.9	252.9
Nitrogen (mg/L)	Nutrient that may fuel algae blooms	●	0.2	0.2	0.2
pH	Acidity	●	7.6	7.6	7.6
Phosphorus (ug/L)	Nutrient that may fuel algae blooms	●	8.4	8.4	8.4
Turbidity (NTU)	Measure of suspended sediment	●	1.6	1.6	1.6

Habitat Observations

Observations on the physical condition of the waterbody can be useful in determining the habitat type present and if watershed stressors have degraded its ability to support a healthy community of aquatic biota. (For More Details)

Observation Date: 10/5/2017

Habitat Type: Meandering
Low Gradient

Embeddedness Estimated %:

Canopy %: 30

						Conductivity	Dissolved Chloride	Dissolved Phosphorus	pH	Temperature	Total Nitrogen	Total Phosphorus
Visit Date	**Start Time**	**Location Name**	**Project ID**	**Collection Method**	**Depth (m)**	**umho/cm**	**mg/l**	**ug/l**	**None**	**deg C**	**mg/l**	**ug/l**
9/10/2007	0900	Pike Hill Brook	Biomon	BottleGrab	0.2	220	8.51	5			0.2	7.84
9/10/2007	0900	Pike Hill Brook	Biomon	Meter	0.2				7.84			
9/10/2007	0900	Pike Hill Brook	Biomon	Thermister	0.2					16.5		

Turbidity
NTU
1.68

Monitoring Site Summary - River/Stream

Pike Hill Brook

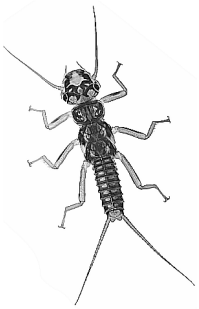
River Mile: 1.3

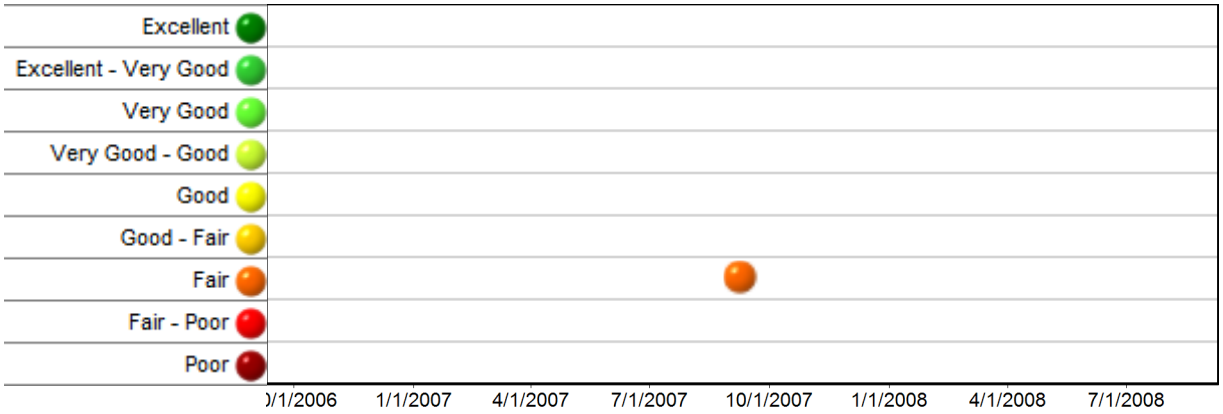
Located immediately below Pike Hill Rd crossing, as stream becomes depositional.

Corinth, VT (44.05379, -72.25259)

Macroinvertebrate Assessment

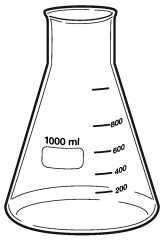
Macroinvertebrate population Assessments are a measure of the biological integrity of the macroinvertebrate community and an indicator of the health of the aquatic biota. (For More Details)





Water Quality Measurements

Chemical and physical parameters provide a “snapshot” of current conditions and are used to detect changes in water quality and to make determinations about a waterbody and its watershed. (For More Details)



Characteristic	Description	Trend	Max	Mean	Min
Conductivity (umho/cm)			220.0	220.0	220.0
Nitrogen (mg/L)	Nutrient that may fuel algae blooms		0.2	0.2	0.2
pH	Acidity		7.8	7.8	7.8
Phosphorus (ug/L)	Nutrient that may fuel algae blooms		7.8	7.8	7.8
Turbidity (NTU)	Measure of suspended sediment		1.7	1.7	1.7

Habitat Observations

Observations on the physical condition of the waterbody can be useful in determining the habitat type present and if watershed stressors have degraded its ability to support a healthy community of aquatic biota. (For More Details)

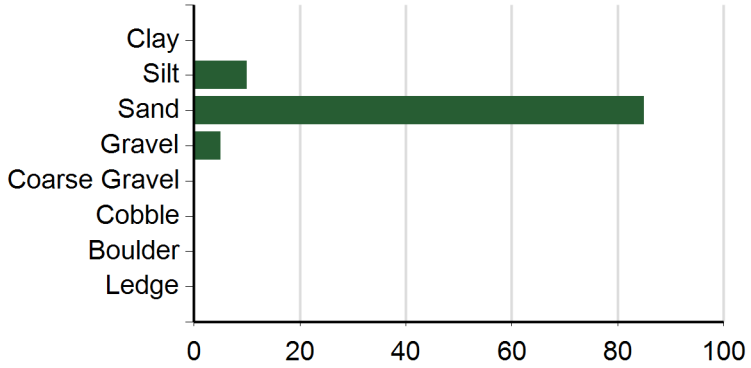
Observation Date: 9/10/2007

Habitat Type: Meandering
Low Gradient

Embeddedness Estimated %:

Canopy %: 30

Substrate Composition %



VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION

Macroinvertebrate Site Summary - River/Stream

Pike Hill Brook

Located above 2nd side road crossing up from Route 25 about 200m above road in riffle area.

Corinth, VT (44.05306, -72.25389)

Stream Type: Small High Gradient

Macroinvertebrate Community Metrics

Macroinvertebrate Community Assessments are based primarily on eight metrics of the Macroinvertebrate community. These include metrics of abundance, species richness, and indexes of Sensitive to tolerant species ratios. (For More Details)

Date	Density	Richness	EPT Richness	PMA-O	B.I.	Oligo.	EPT/EPT + Chiro	PPCS-F	Community Assessment
9/10/1997	433	34.0	13.0	60.9	4.09	0.00	0.75	0.30	Fair
8/29/2005	188	50.0	17.0	54.4	4.49	3.72	0.62	0.62	Fair
9/10/2007	1736	52.0	17.0	62.7	3.76	0.92	0.74	0.57	Good
Scoring Guideline for a SHG Stream of Water Quality Class B(2)									
	≥ 300	≥ 27	≥ 16	≥ 45	≤ 4.5	≤ 12	≥ 0.45	≥ 0.4	**Full Support**
	≥ 250	≥ 26	≥ 15	≥ 40	≤ 4.65	≤ 14.5	≥ 0.43	≥ 0.35	**Indeterminate**
	< 250	< 26	< 15	< 40	> 4.65	> 14.5	< 0.43	< 0.35	**Non-Support**

						Conductivity	pH	Temperature
Visit Date	**Start Time**	**Location Name**	**Project ID**	**Collection Method**	**Depth (m)**	**umho/cm**	**None**	**deg C**
9/10/1997	1300	Pike Hill Brook	Biomon	BottleGrab	0.2		7.7	
9/10/1997	1300	Pike Hill Brook	Biomon	Meter	0.2	240		
9/10/1997	1300	Pike Hill Brook	Biomon	Thermister	0.2			16.5

VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION

Monitoring Site Summary - River/Stream

Pike Hill Brook

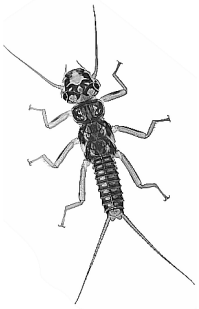
River Mile: 1.4

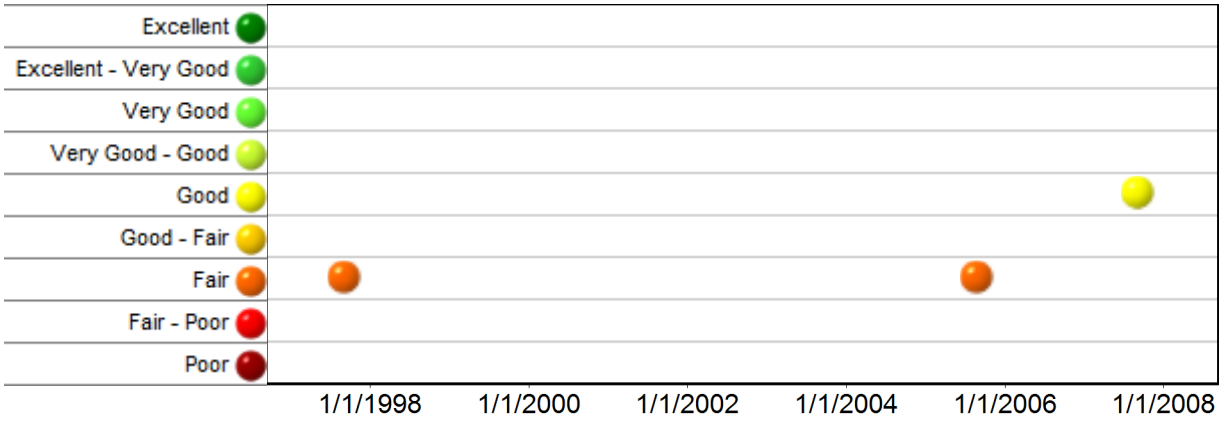
Located above 2nd side road crossing up from Route 25 about 200m above road in riffle area.

Corinth, VT (44.05306, -72.25389)

Macroinvertebrate Assessment

Macroinvertebrate population Assessments are a measure of the biological integrity of the macroinvertebrate community and an indicator of the health of the aquatic biota. (For More Details)





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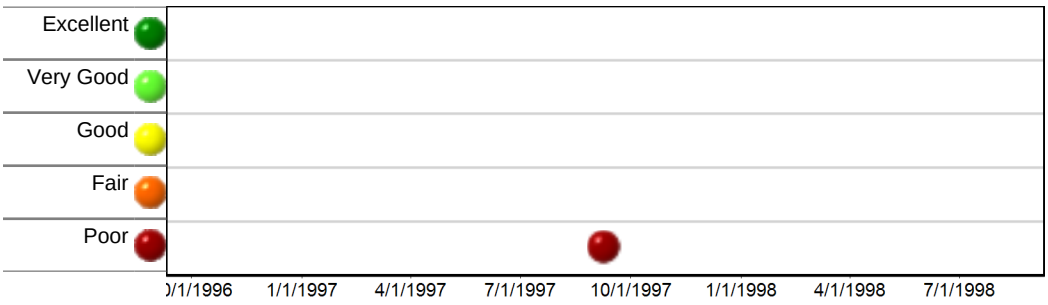

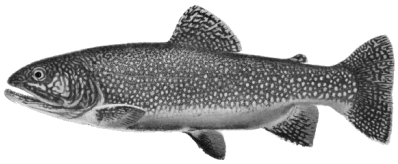

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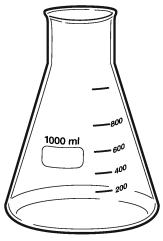

Characteristic	Description	Trend	Max	Mean	Min
Conductivity (umho/cm)			240.0	240.0	240.0
pH	Acidity		7.7	7.7	7.7

Habitat Observations

Observations on the physical condition of the waterbody can be useful in determining the habitat type present and if watershed stressors have degraded its ability to support a healthy community of aquatic biota. (For More Details)

Observation Date: 9/10/2007

Habitat Type: Riffle

Embeddedness Estimated %: 37.5

Canopy %: 50

VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION

Macroinvertebrate Site Summary - River/Stream

Pike Hill Brook

Located at USGS site 4E,
Corinth, VT (44.05303, -72.26337)
Stream Type: Small High Gradient

Macroinvertebrate Community Metrics

Macroinvertebrate Community Assessments are based primarily on eight metrics of the Macroinvertebrate community. These include metrics of abundance, species richness, and indexes of Sensitive to tolerant species ratios. (For More Details)

Date	Density	Richness	EPT Richness	PMA-O	B.I.	Oligo.	EPT/EPT + Chiro	PPCS-F	Community Assessment
9/10/2007	678	28.0	9.0	46.4	5.83	1.18	0.89	0.22	Poor
Scoring Guideline for a SHG Stream of Water Quality Class B(2)									
	≥ 300	≥ 27	≥ 16	≥ 45	≤ 4.5	≤ 12	≥ 0.45	≥ 0.4	**Full Support**
	≥ 250	≥ 26	≥ 15	≥ 40	≤ 4.65	≤ 14.5	≥ 0.43	≥ 0.35	**Indeterminate**
	< 250	< 26	< 15	< 40	> 4.65	> 14.5	< 0.43	< 0.35	**Non-Support**

Monitoring Site Summary - River/Stream

Pike Hill Brook

River Mile: 1.9
Located at USGS site 4E,
Corinth, VT (44.05303, -72.26337)

Macroinvertebrate Assessment

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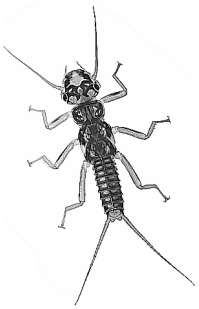

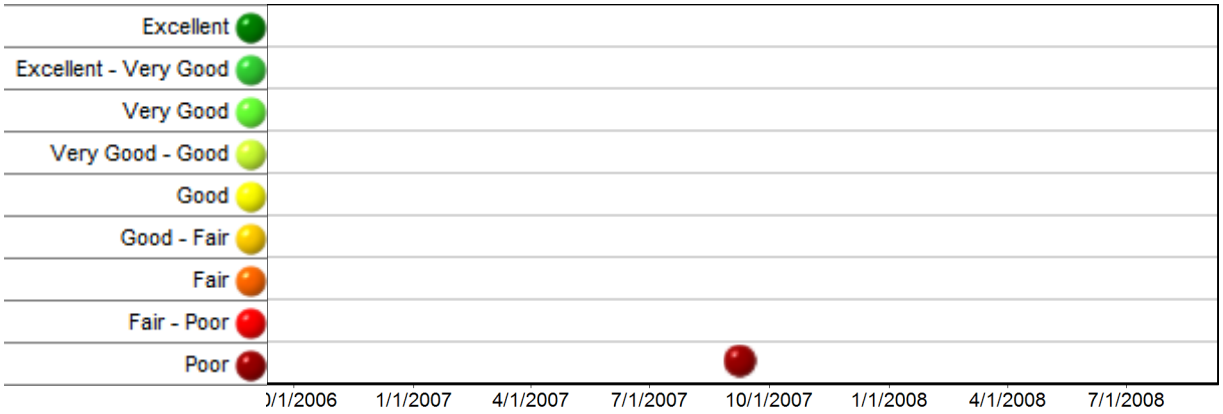

Habitat Observations

Observations on the physical condition of the waterbody can be useful in determining the habitat type present and if watershed stressors have degraded its ability to support a healthy community of aquatic biota. (For More Details)

Observation Date: 9/10/2007

Habitat Type: Riffle

Embeddedness Estimated %: 37.5

Canopy %: 90

						Conductivity	Dissolved Chloride	Dissolved Phosphorus	Temperature	Total Nitrogen	Total Phosphorus	Turbidity
Visit Date	**Start Time**	**Location Name**	**Project ID**	**Collection Method**	**Depth (m)**	**umho/cm**	**mg/l**	**ug/l**	**deg C**	**mg/l**	**ug/l**	**NTU**
9/10/2007	0900	Pike Hill Brook	Biomon	BottleGrab	0.2	214	< 2	5		0.2	8.21	1.95
9/10/2007	0900	Pike Hill Brook	Biomon	Thermister	0.2				13.5			

Monitoring Site Summary - River/Stream

Pike Hill Brook

River Mile: 2.0

In spruce wetland area above beaver ponds and sand/gravel pit road.

Corinth, VT (44.05201, -72.26844)

Macroinvertebrate Assessment

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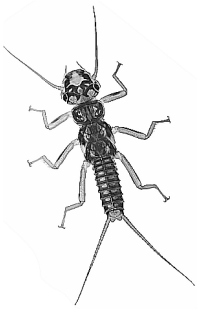
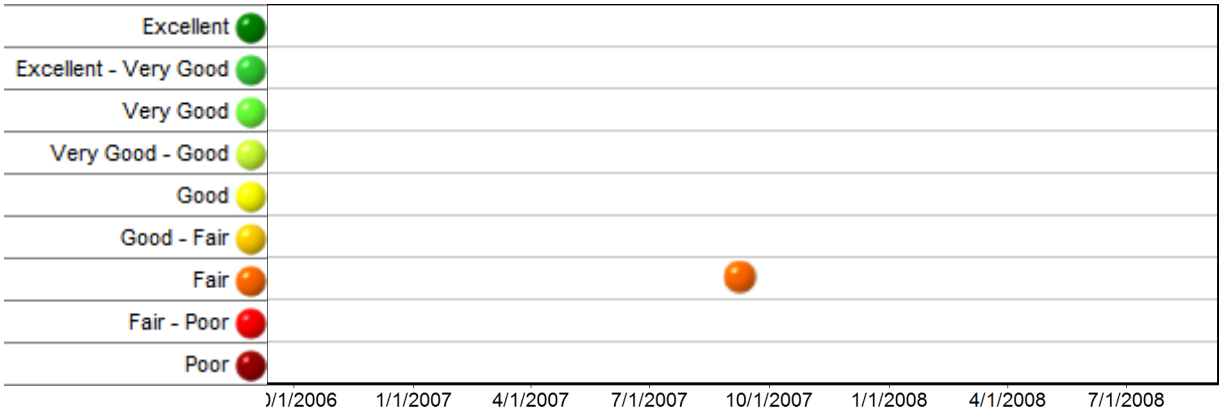
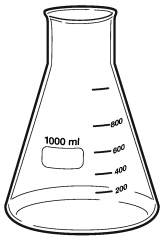




Water Quality Measurements

Chemical and physical parameters provide a "snapshot" of current conditions and are used to detect changes in water quality and to make determinations about a waterbody and its watershed. (For More Details)



Characteristic	Description	Trend	Max	Mean	Min
Conductivity (umho/cm)		●	214.0	214.0	214.0
Nitrogen (mg/L)	Nutrient that may fuel algae blooms	●	0.2	0.2	0.2
Phosphorus (ug/L)	Nutrient that may fuel algae blooms	●	8.2	8.2	8.2
Turbidity (NTU)	Measure of suspended sediment	●	2.0	2.0	2.0

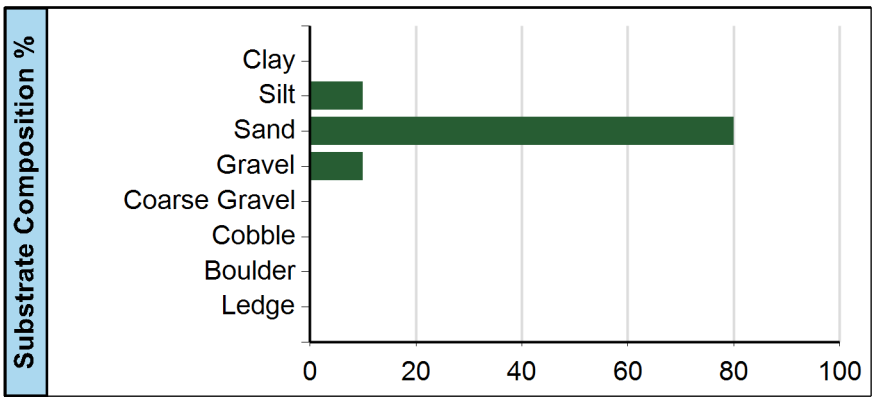
Habitat Observations

Observation Date: 9/10/2007

Habitat Type: Meandering Low Gradient

Embeddedness Estimated %:

Canopy %: 20



VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION

Macroinvertebrate Site Summary - River/Stream

Pike Hill Brook

Located in riffle area immediately above low gradient marshy reach. South of Pike Hill Road. Corinth, VT (44.05361, -72.27222)
Stream Type: Small High Gradient

Macroinvertebrate Community Metrics

Macroinvertebrate Community Assessments are based primarily on eight metrics of the Macroinvertebrate community. These include metrics of abundance, species richness, and indexes of Sensitive to tolerant species ratios. (For More Details)

Date	Density	Richness	EPT Richness	PMA-O	B.I.	Oligo.	EPT/EPT + Chiro	PPCS-F	Community Assessment
8/29/2005	154	21.0	5.0	38.8	2.68	0.65	0.15	0.48	Poor
9/10/2007	260	24.0	8.0	49.8	4.73	1.15	0.90	0.27	Poor
Scoring Guideline for a SHG Stream of Water Quality Class B(2)									
	≥ 300	≥ 27	≥ 16	≥ 45	≤ 4.5	≤ 12	≥ 0.45	≥ 0.4	**Full Support**
	≥ 250	≥ 26	≥ 15	≥ 40	≤ 4.65	≤ 14.5	≥ 0.43	≥ 0.35	**Indeterminate**
	< 250	< 26	< 15	< 40	> 4.65	> 14.5	< 0.43	< 0.35	**Non-Support**

Monitoring Site Summary - River/Stream

Pike Hill Brook

River Mile: 2.1

Located in riffle area immediately above low gradient marshy reach. South of Pike Hill Road. Corinth, VT (44.05361, -72.27222)

Macroinvertebrate Assessment

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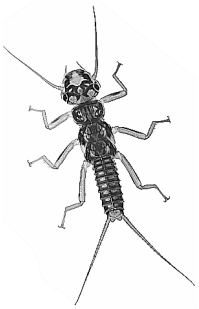

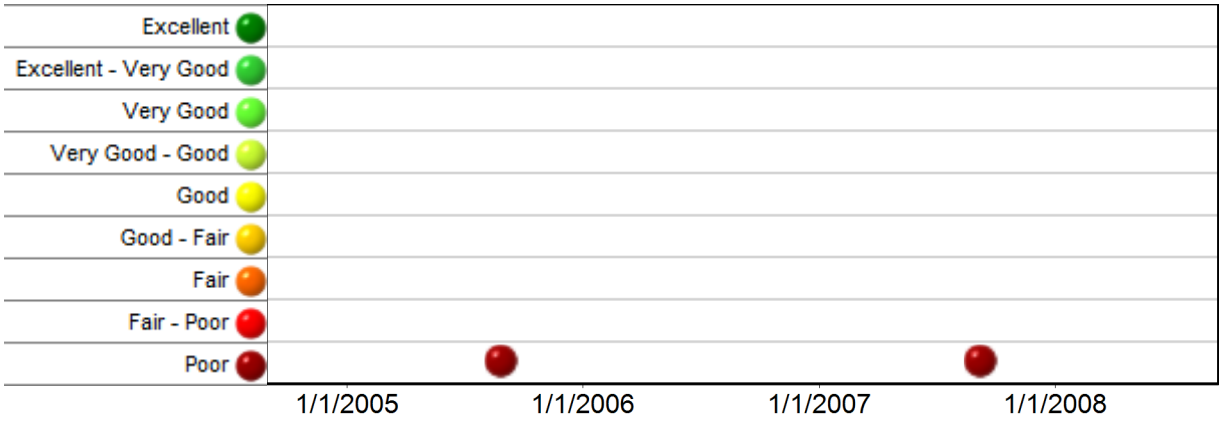

VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION

Macroinvertebrate Site Summary - River/Stream

Pike Hill Brook

Located below old timber dam below site 2.6, in high gradient gorge area.
Corinth, VT (44.05619, -72.27914)
Stream Type: Small High Gradient

Macroinvertebrate Community Metrics

Macroinvertebrate Community Assessments are based primarily on eight metrics of the Macroinvertebrate community. These include metrics of abundance, species richness, and indexes of Sensitive to tolerant species ratios. (For More Details)

Date	Density	Richness	EPT Richness	PMA-O	B.I.	Oligo.	EPT/EPT + Chiro	PPCS-F	Community Assessment
9/5/2002	5	4.0	1.0	39.5	4.75	0.00	1.00	0.33	Poor
Scoring Guideline for a SHG Stream of Water Quality Class B(2)									
	≥ 300	≥ 27	≥ 16	≥ 45	≤ 4.5	≤ 12	≥ 0.45	≥ 0.4	**Full Support**
	≥ 250	≥ 26	≥ 15	≥ 40	≤ 4.65	≤ 14.5	≥ 0.43	≥ 0.35	**Indeterminate**
	< 250	< 26	< 15	< 40	> 4.65	> 14.5	< 0.43	< 0.35	**Non-Support**

						Conductivity	pH	Temperature
Visit Date	**Start Time**	**Location Name**	**Project ID**	**Collection Method**	**Depth (m)**	**umho/cm**	**None**	**deg C**
9/5/2002	1230	Pike Hill Brook	Biomon	BottleGrab	0.2		7.63	
9/5/2002	1230	Pike Hill Brook	Biomon	Meter	0.2	252		
9/5/2002	1230	Pike Hill Brook	Biomon	Thermister	0.2			13

Monitoring Site Summary - River/Stream

Pike Hill Brook

River Mile: 2.5

Located below old timber dam below site 2.6, in high gradient gorge area.

Corinth, VT (44.05619, -72.27914)

Macroinvertebrate Assessment

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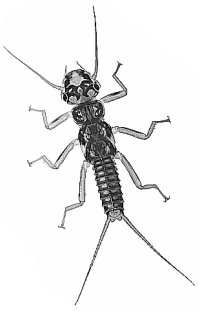

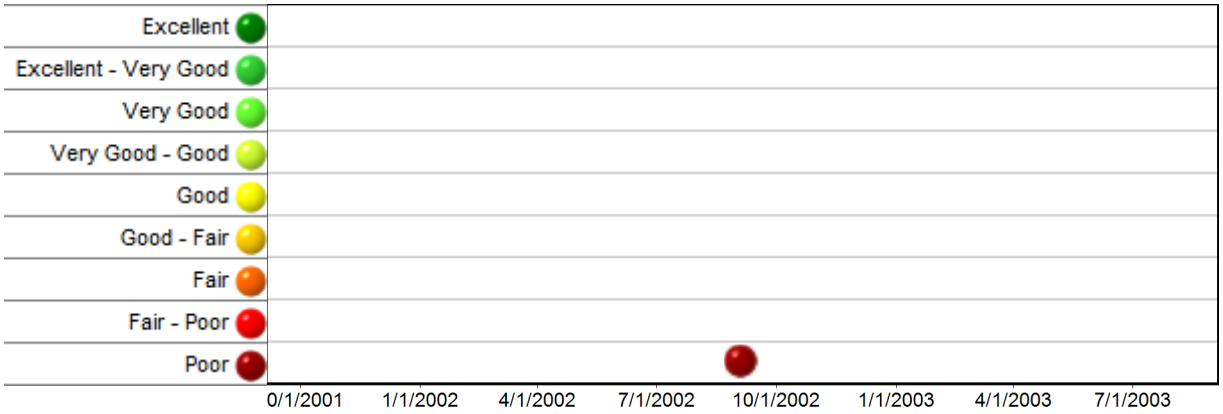

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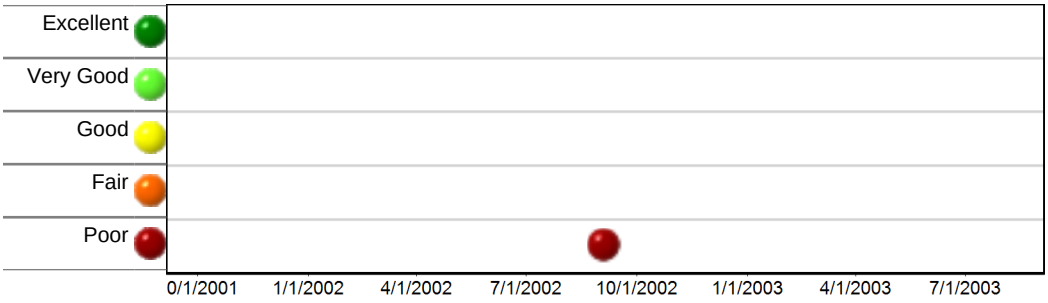

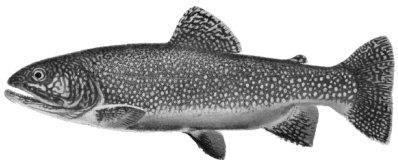

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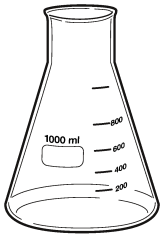

Characteristic	Description	Trend	Max	Mean	Min
Conductivity (umho/cm)		●	252.0	252.0	252.0
pH			7.6	7.6	7.6

VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION

Macroinvertebrate Site Summary - River/Stream

Pike Hill Brook

Located below bridge off Pike Hill Rd crossing, 1st bridge below mine.
Corinth, VT (44.05708, -72.28056)
Stream Type: Small High Gradient

Macroinvertebrate Community Metrics

Macroinvertebrate Community Assessments are based primarily on eight metrics of the Macroinvertebrate community. These include metrics of abundance, species richness, and indexes of Sensitive to tolerant species ratios. (For More Details)

Date	Density	Richness	EPT Richness	PMA-O	B.I.	Oligo.	EPT/EPT + Chiro	PPCS-F	Community Assessment
9/10/1997	46	9.0	5.0	51.9	3.46	0.00	1.00	0.28	Poor
8/29/2005	150	28.0	10.0	49.8	3.13	0.00	0.80	0.38	Poor
10/5/2017	147	32.0	9.0	70.5	4.17	0.00	0.77	0.68	Poor
Scoring Guideline for a SHG Stream of Water Quality Class B(2)									
	≥ 300	≥ 27	≥ 16	≥ 45	≤ 4.5	≤ 12	≥ 0.45	≥ 0.4	**Full Support**
	≥ 250	≥ 26	≥ 15	≥ 40	≤ 4.65	≤ 14.5	≥ 0.43	≥ 0.35	**Indeterminate**
	< 250	< 26	< 15	< 40	> 4.65	> 14.5	< 0.43	< 0.35	**Non-Support**

						Conductivity	Dissolved Oxygen	Dissolved Oxygen Saturation	pH	Temperature	Total Chloride	Total Nitrogen
Visit Date	**Start Time**	**Location Name**	**Project ID**	**Collection Method**	**Depth (m)**	**umho/cm**	**mg/l**	**%**	**None**	**deg C**	**mg/l**	**mg/l**
9/10/1997	1140	Pike Hill Brook	Biomon	BottleGrab	0.2				7.42			
9/10/1997	1140	Pike Hill Brook	Biomon	Meter	0.2	409						
9/10/1997	1140	Pike Hill Brook	Biomon	Thermister	0.2					12.5		
8/29/2005	1200	Pike Hill Brook	Biomon	BottleGrab	0.2	240						
10/5/2017	1346	Pike Hill Brook	BioMon	Hydrolab	0.2	241.1	8.99	90.7	7.65	13.83		
10/5/2017	1346	Pike Hill Brook	BioMon	BottleGrab	0.2						2.3	0.14

Total Phosphorus	Turbidity
ug/l	NTU
	3.5
8.78	

Monitoring Site Summary - River/Stream

Pike Hill Brook

River Mile: 2.6

Located below bridge off Pike Hill Rd crossing, 1st bridge below mine.

Corinth, VT (44.05708, -72.28056)

Macroinvertebrate Assessment

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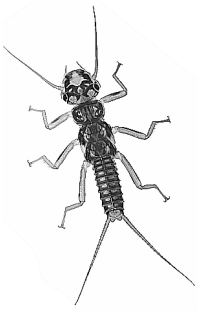

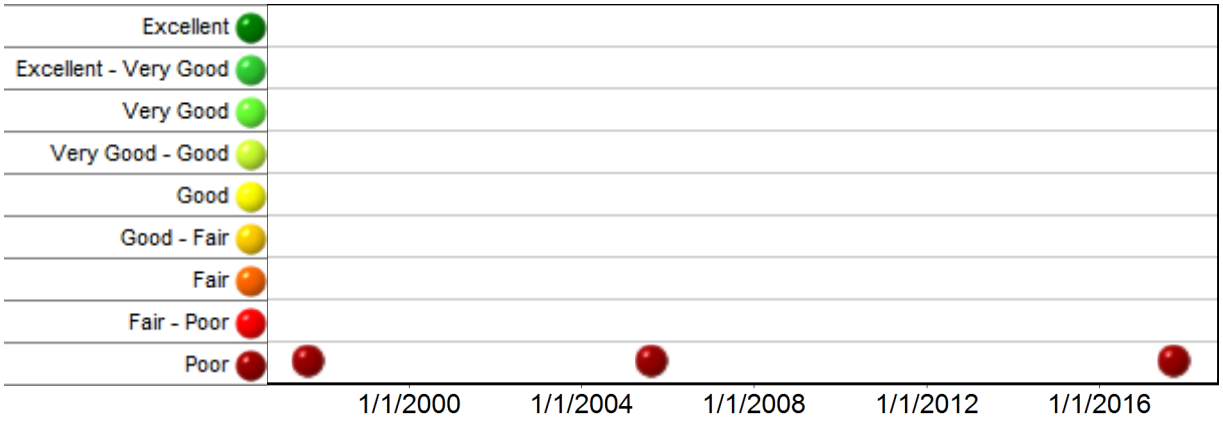

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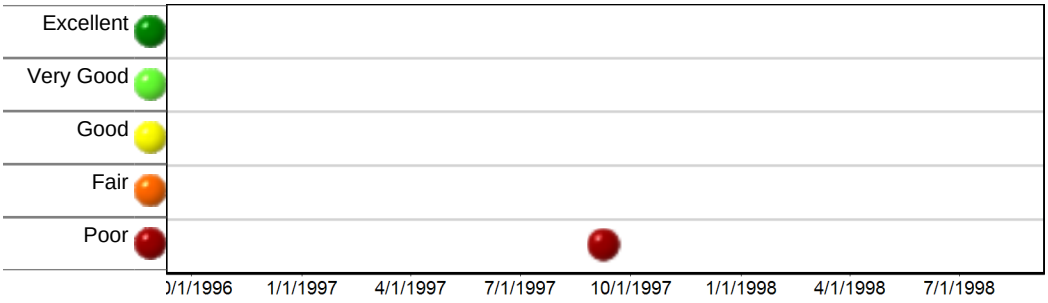

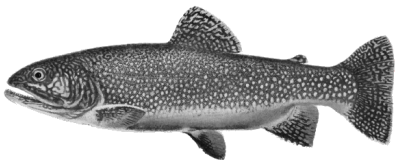

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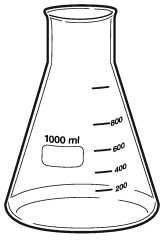


Characteristic	Description	Trend	Max	Mean	Min
Chloride (mg/L)	At elevated values mostly from deicing		2.3	2.3	2.3
Conductivity (umho/cm)			409.0	296.7	240.0
Nitrogen (mg/L)	Nutrient that may fuel algae blooms		0.1	0.1	0.1
pH	Acidity		7.7	7.5	7.4
Phosphorus (ug/L)	Nutrient that may fuel algae blooms		8.8	8.8	8.8
Turbidity (NTU)	Measure of suspended sediment		3.5	3.5	3.5

Habitat Observations

Observations on the physical condition of the waterbody can be useful in determining the habitat type present and if watershed stressors have degraded its ability to support a healthy community of aquatic biota. (For More Details)

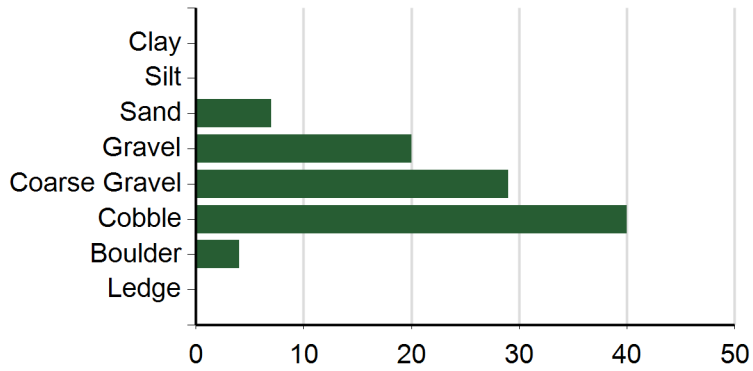
Observation Date: 10/5/2017

Habitat Type: Riffle

Embeddedness Estimated %: 70

Canopy %: 100

Substrate Composition %



Macroinvertebrate Site Summary - River/Stream

Pike Hill Brook

Located immediately above Carpenter Place Road.
Corinth, VT (44.06250, -72.28889)
Stream Type: Small High Gradient

Macroinvertebrate Community Metrics

Macroinvertebrate Community Assessments are based primarily on eight metrics of the Macroinvertebrate community. These include metrics of abundance, species richness, and indexes of Sensitive to tolerant species ratios. (For More Details)

Date	Density	Richness	EPT Richness	PMA-O	B.I.	Oligo.	EPT/EPT + Chiro	PPCS-F	Community Assessment
8/29/2005	42	16.0	5.0	53.3	2.48	9.52	0.74	0.45	
Scoring Guideline for a SHG Stream of Water Quality Class B(2)									
	≥ 300	≥ 27	≥ 16	≥ 45	≤ 4.5	≤ 12	≥ 0.45	≥ 0.4	**Full Support**
	≥ 250	≥ 26	≥ 15	≥ 40	≤ 4.65	≤ 14.5	≥ 0.43	≥ 0.35	**Indeterminate**
	< 250	< 26	< 15	< 40	> 4.65	> 14.5	< 0.43	< 0.35	**Non-Support**

VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION

Macroinvertebrate Site Summary - River/Stream

Pike Hill Brook

Located above Richardson Road. Near USGS gage sta
Corinth, VT (44.06444, -72.30083)
Stream Type: Small High Gradient

Macroinvertebrate Community Metrics

Macroinvertebrate Community Assessments are based primarily on eight metrics of the Macroinvertebrate community. These include metrics of abundance, species richness, and indexes of Sensitive to tolerant species ratios. (For More Details)

Date	Density	Richness	EPT Richness	PMA-O	B.I.	Oligo.	EPT/EPT + Chiro	PPCS-F	Community Assessment
8/29/2005	30	6.0	2.0	32.8	6.70	0.00	0.16	0.28	
Scoring Guideline for a SHG Stream of Water Quality Class B(2)									
	≥ 300	≥ 27	≥ 16	≥ 45	≤ 4.5	≤ 12	≥ 0.45	≥ 0.4	**Full Support**
	≥ 250	≥ 26	≥ 15	≥ 40	≤ 4.65	≤ 14.5	≥ 0.43	≥ 0.35	**Indeterminate**
	< 250	< 26	< 15	< 40	> 4.65	> 14.5	< 0.43	< 0.35	**Non-Support**

VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION

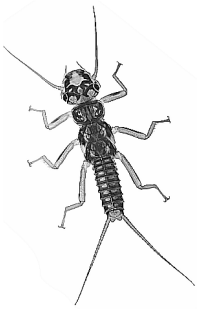
Monitoring Site Summary - River/Stream

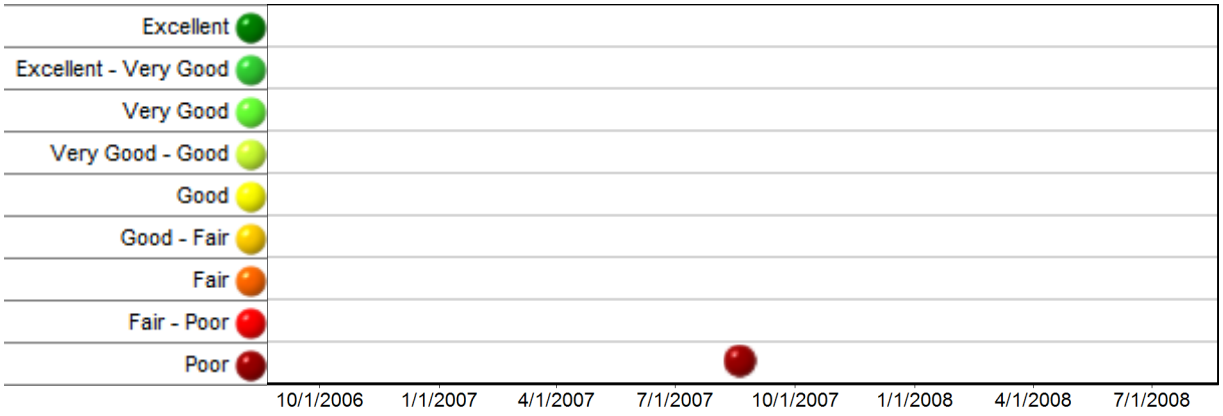
Pike Hill Brook

River Mile: 4.0
Located above Richardson Road. Near USGS gage sta
Corinth, VT (44.06444, -72.30083)

Macroinvertebrate Assessment

Macroinvertebrate population Assessments are a measure of the biological integrity of the macroinvertebrate community and an indicator of the health of the aquatic biota. (For More Details)





Macroinvertebrate Site Summary - River/Stream

Pike Hill Brook Trib # 3

Located at Brook Road
Corinth, VT (44.04953, -72.25439)
Stream Type: Small High Gradient

Macroinvertebrate Community Metrics

Macroinvertebrate Community Assessments are based primarily on eight metrics of the Macroinvertebrate community. These include metrics of abundance, species richness, and indexes of Sensitive to tolerant species ratios. (For More Details)

Date	Density	Richness	EPT Richness	PMA-O	B.I.	Oligo.	EPT/EPT + Chiro	PPCS-F	Community Assessment
9/10/2007	875	41.0	15.0	73.7	2.88	0.92	0.80	0.64	Good
Scoring Guideline for a SHG Stream of Water Quality Class B(2)									
	≥ 300	≥ 27	≥ 16	≥ 45	≤ 4.5	≤ 12	≥ 0.45	≥ 0.4	**Full Support**
	≥ 250	≥ 26	≥ 15	≥ 40	≤ 4.65	≤ 14.5	≥ 0.43	≥ 0.35	**Indeterminate**
	< 250	< 26	< 15	< 40	> 4.65	> 14.5	< 0.43	< 0.35	**Non-Support**

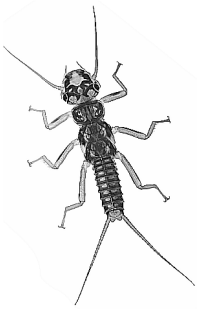
Monitoring Site Summary - River/Stream

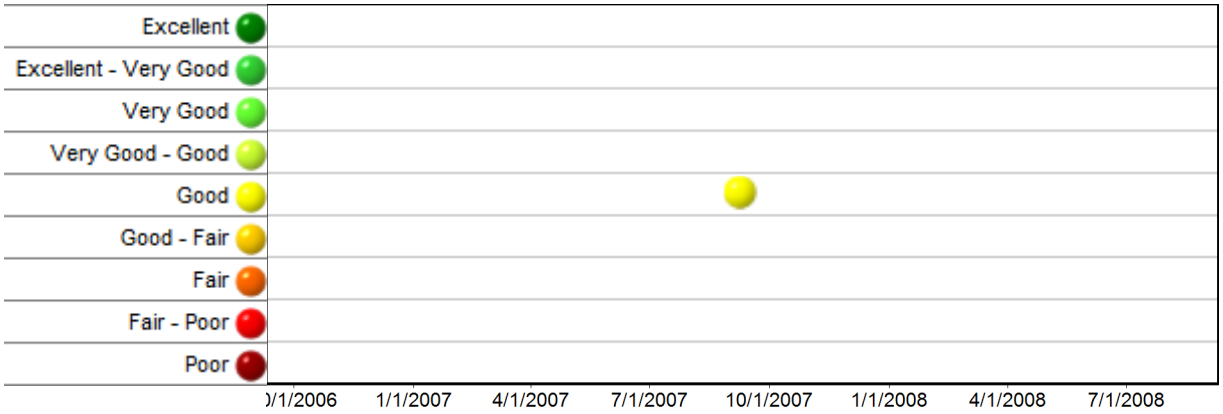
Pike Hill Brook Trib # 3

River Mile: 0.2
Located at Brook Road
Corinth, VT (44.04953, -72.25439)

Macroinvertebrate Assessment

Macroinvertebrate population Assessments are a measure of the biological integrity of the macroinvertebrate community and an indicator of the health of the aquatic biota. (For More Details)





VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION

Macroinvertebrate Site Summary - River/Stream

Pike Hill Brook Trib 7

Located just above confluence with Pike Hill Brook.
Corinth, VT (44.05778, -72.28250)
Stream Type: Small High Gradient

Macroinvertebrate Community Metrics

Macroinvertebrate Community Assessments are based primarily on eight metrics of the Macroinvertebrate community. These include metrics of abundance, species richness, and indexes of Sensitive to tolerant species ratios. (For More Details)

Date	Density	Richness	EPT Richness	PMA-O	B.I.	Oligo.	EPT/EPT + Chiro	PPCS-F	Community Assessment
9/10/1997	506	35.0	18.0	86.9	2.21	1.83	0.83	0.54	Very Good - Good
Scoring Guideline for a SHG Stream of Water Quality Class B(2)									
	≥ 300	≥ 27	≥ 16	≥ 45	≤ 4.5	≤ 12	≥ 0.45	≥ 0.4	**Full Support**
	≥ 250	≥ 26	≥ 15	≥ 40	≤ 4.65	≤ 14.5	≥ 0.43	≥ 0.35	**Indeterminate**
	< 250	< 26	< 15	< 40	> 4.65	> 14.5	< 0.43	< 0.35	**Non-Support**

						Conductivity	Temperature
Visit Date	Start Time	Location Name	Project ID	Collection Method	Depth (m)	umho/cm	deg C
9/10/1997		Pike Hill Brook Trib 7	Biomon	Meter	0.2	206	
9/10/1997		Pike Hill Brook Trib 7	Biomon	Thermister	0.2		13

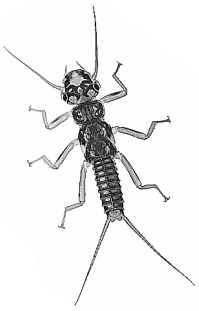
Monitoring Site Summary - River/Stream

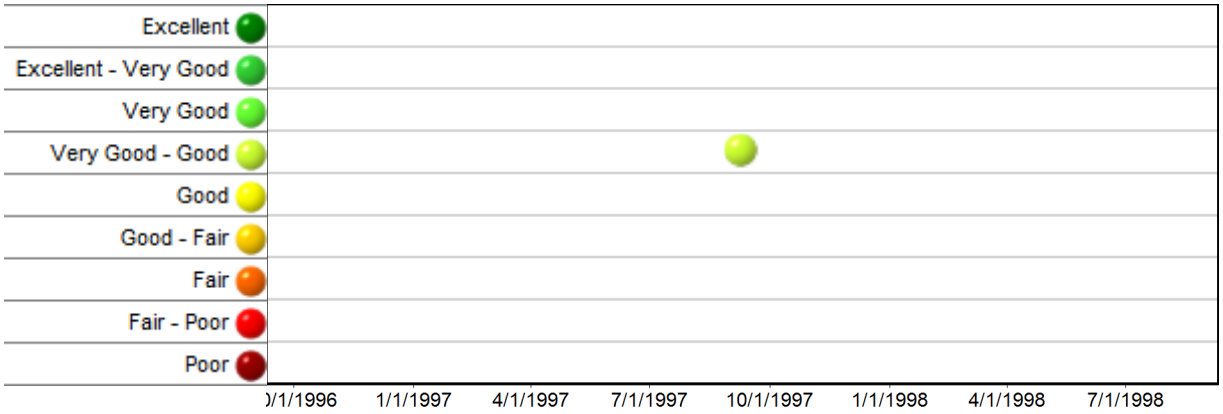
Pike Hill Brook Trib 7

River Mile: 0.1
Located just above confluence with Pike Hill Brook.
Corinth, VT (44.05778, -72.28250)

Macroinvertebrate Assessment

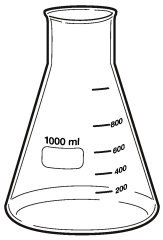
Macroinvertebrate population Assessments are a measure of the biological integrity of the macroinvertebrate community and an indicator of the health of the aquatic biota. (For More Details)





Water Quality Measurements

Chemical and physical parameters provide a “snapshot” of current conditions and are used to detect changes in water quality and to make determinations about a waterbody and its watershed. (For More Details)



Characteristic	Description	Trend	Max	Mean	Min
Conductivity (umho/cm)		●	206.0	206.0	206.0

Habitat Observations

Observations on the physical condition of the waterbody can be useful in determining the habitat type present and if watershed stressors have degraded its ability to support a healthy community of aquatic biota. (For More Details)

Observation Date: 9/10/1997
Habitat Type: Riffle
Embeddedness Estimated %: 15
Canopy %: 100

VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION

Macroinvertebrate Site Summary - River/Stream

Pike Hill Brook Trib #10

Located above confluence with Pike Hill Brook proper which originates in Pike hill mine. This site is very small but may serve as control for Pike Hill Brook 4.0 only.

Corinth, VT (44.06472, -72.30139)

Stream Type: Small High Gradient

Macroinvertebrate Community Metrics

Macroinvertebrate Community Assessments are based primarily on eight metrics of the Macroinvertebrate community. These include metrics of abundance, species richness, and indexes of Sensitive to tolerant species ratios. (For More Details)

Date	Density	Richness	EPT Richness	PMA-O	B.I.	Oligo.	EPT/EPT + Chiro	PPCS-F	Community Assessment
8/29/2005	294	42.0	10.0	50.3	3.81	4.08	0.51	0.45	
Scoring Guideline for a SHG Stream of Water Quality Class B(2)									
	≥ 300	≥ 27	≥ 16	≥ 45	≤ 4.5	≤ 12	≥ 0.45	≥ 0.4	**Full Support**
	≥ 250	≥ 26	≥ 15	≥ 40	≤ 4.65	≤ 14.5	≥ 0.43	≥ 0.35	**Indeterminate**
	< 250	< 26	< 15	< 40	> 4.65	> 14.5	< 0.43	< 0.35	**Non-Support**

VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION

Macroinvertebrate Site Summary - River/Stream

Waits River

Located above snowmobile suspention bridge, about 600m above bridge to East Corinth. Downstream from Pike Hill Brook confluence approx 1/2 mile.

Corinth, VT (44.05768, -72.22661)

Stream Type: Medium High Gradient

Macroinvertebrate Community Metrics

Macroinvertebrate Community Assessments are based primarily on eight metrics of the Macroinvertebrate community. These include metrics of abundance, species richness, and indexes of Sensitive to tolerant species ratios. (For More Details)

Date	Density	Richness	EPT Richness	PMA-O	B.I.	Oligo.	EPT/EPT + Chiro	PPCS-F	Community Assessment
9/5/2002	1536	44.0	28.0	84.0	3.47	0.52	0.90	0.57	Excellent
8/29/2005	2872	51.0	24.0	77.7	3.74	0.56	0.87	0.45	Very Good
Scoring Guideline for a MHG Stream of Water Quality Class B(2)									
	≥ 300	≥ 30	≥ 18	≥ 45	≤ 5	≤ 12	≥ 0.45	≥ 0.4	**Full Support**
	≥ 250	≥ 28	≥ 16	≥ 40	≤ 5.15	≤ 14.5	≥ 0.43	≥ 0.35	**Indeterminate**
	< 250	< 28	< 16	< 40	> 5.15	> 14.5	< 0.43	< 0.35	**Non-Support**

						Alkalinity	Conductivity	pH	Temperature
Visit Date	**Start Time**	**Location Name**	**Project ID**	**Collection Method**	**Depth (m)**	**mg/l**	**umho/cm**	**None**	**deg C**
9/5/2002		Waits River	Biomon	BottleGrab	0.2	92.8		8.86	
9/5/2002		Waits River	Biomon	Meter	0.2		242		
9/5/2002		Waits River	Biomon	Thermister	0.2				21

Monitoring Site Summary - River/Stream

Waits River

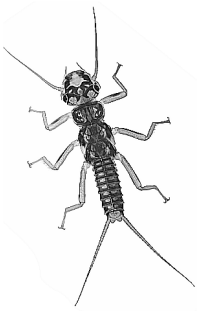
River Mile: 10.3

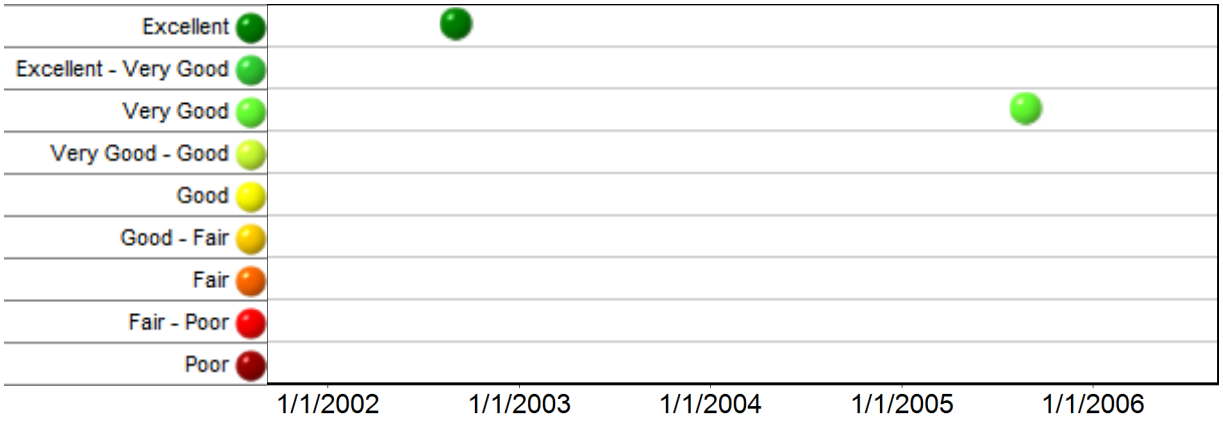
Located above snowmobile suspention bridge, about 600m above bridge to East Corinth. Downstream from Pike Hill Brook confluence approx 1/2 mile.

Corinth, VT (44.05768, -72.22661)

Macroinvertebrate Assessment

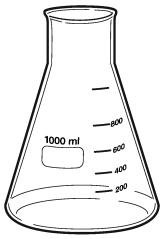
Macroinvertebrate population Assessments are a measure of the biological integrity of the macroinvertebrate community and an indicator of the health of the aquatic biota. (For More Details)





Water Quality Measurements

Chemical and physical parameters provide a "snapshot" of current conditions and are used to detect changes in water quality and to make determinations about a waterbody and its watershed. (For More Details)



Characteristic	Description	Trend	Max	Mean	Min
Conductivity (umho/cm)			242.0	242.0	242.0
			8.9	8.9	8.9

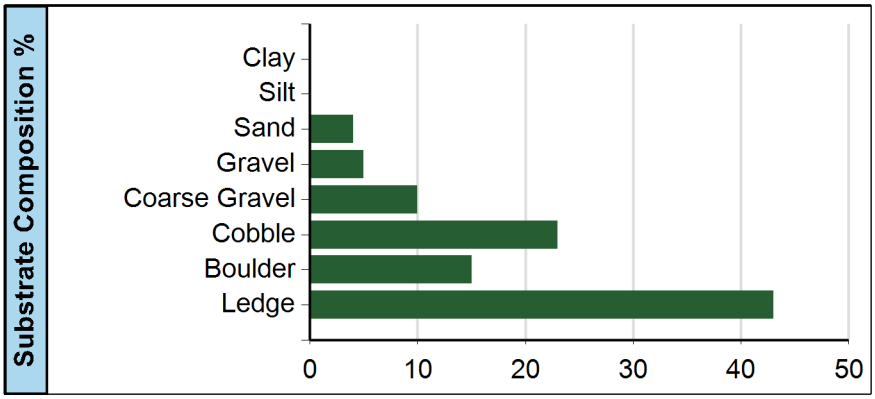
Habitat Observations

Observation Date: 9/5/2002

Habitat Type: Riffle

Embeddedness Estimated %: 15

Canopy %: 20



Monitoring Site Summary - River/Stream

Waits River

River Mile: 12.5

NRSA site FW08VT020 Access off Rt 25 through farmers pasture. Approx 1.4 miles upstream from Pike Hill Brook confluence.

Corinth, VT (44.07461, -72.25040)

VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION

Macroinvertebrate Site Summary - River/Stream

Waits River

Located at Rt 25 crossing, above Pike Hill Brook confluence approx 1.9 miles.

Corinth, VT (44.07722, -72.25917)
Stream Type: Medium High Gradient

Macroinvertebrate Community Metrics

Macroinvertebrate Community Assessments are based primarily on eight metrics of the Macroinvertebrate community. These include metrics of abundance, species richness, and indexes of Sensitive to tolerant species ratios. (For More Details)

Date	Density	Richness	EPT Richness	PMA-O	B.I.	Oligo.	EPT/EPT + Chiro	PPCS-F	Community Assessment
8/29/2005	4236	55.0	24.0	80.5	3.99	3.12	0.73	0.49	Very Good
Scoring Guideline for a MHG Stream of Water Quality Class B(2)									
	≥ 300	≥ 30	≥ 18	≥ 45	≤ 5	≤ 12	≥ 0.45	≥ 0.4	**Full Support**
	≥ 250	≥ 28	≥ 16	≥ 40	≤ 5.15	≤ 14.5	≥ 0.43	≥ 0.35	**Indeterminate**
	< 250	< 28	< 16	< 40	> 5.15	> 14.5	< 0.43	< 0.35	**Non-Support**

Monitoring Site Summary - River/Stream

Waits River

River Mile: 13.0

Located at Rt 25 crossing, above Pike Hill Brook confluence approx 1.9 miles.

Corinth, VT (44.07722, -72.25917)

Macroinvertebrate Assessment

Macroinvertebrate population Assessments are a measure of the biological integrity of the macroinvertebrate community and an indicator of the health of the aquatic biota. (For More Details)